

Municipal Journal

Volume XXXIV.

NEW YORK, APRIL 24, 1913

No. 17



PERCOLATING FILTER, SPRAYING AT THREE-QUARTER HEAD.

SEWAGE TREATMENT AT NORRISTOWN, PENNSYLVANIA

At State Hospital for Insane Having 3,500 Inmates—Screens, Primary Settling Tanks, Dosing Chamber, Percolating Filter and Secondary Settling Tanks—Hypochlorite Treatment—Sludge Beds—Operating Results.

By P. E. MEBUS, C. E., Ass't Engineer with Albright & Mebus, Consulting Engineers, Philadelphia, Pa.

The State Hospital for the Insane for the Southeastern District of Pennsylvania is located in Montgomery county, partly in the borough of Norristown, and partly in Norriton township, which adjoins the borough on the north. The buildings are located on high ground which slopes gradually toward Stony creek, a tributary of the Schuylkill river. The entire area of the hospital property is about 850 acres, a large part of which is farm land. The present population is about 3,500, of which 500 are employees and the remainder patients.

Former Method of Sewage Treatment.—The old method of sewage treatment consisted of collecting the sewage in a dosing chamber about 40 feet square and discharging it automatically onto a subsurface irrigation field, underdrained by agricultural drain tile. The volume of sewage, which was constantly increasing, finally became too great a load to receive efficient treatment in the existing subsurface irrigation fields. Broad irrigation fields, over which the sewage was distributed by channel pipes, were added from time to time, and operated in

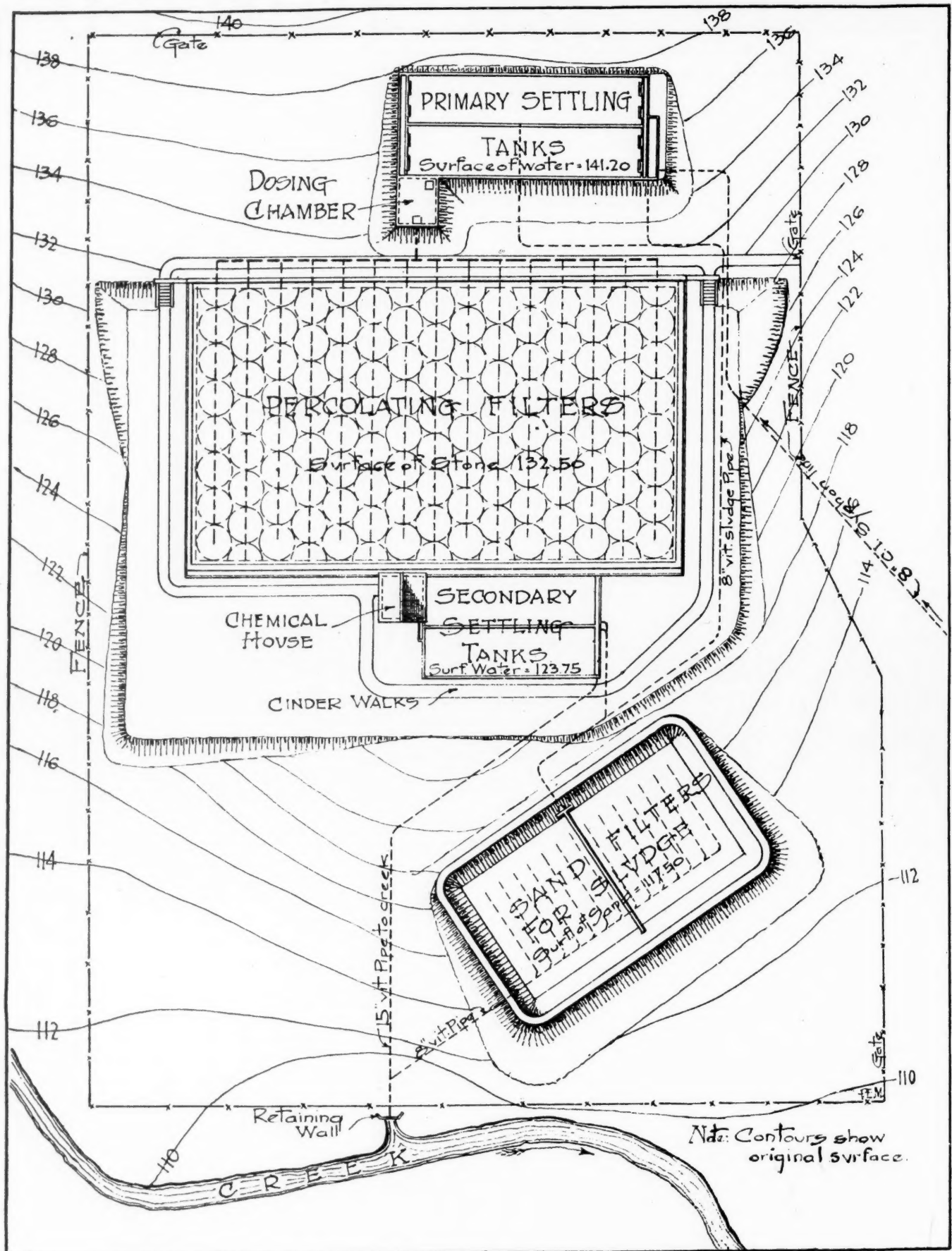
addition to the subsurface irrigation fields. Land on both sides of Stony creek was utilized by the surface irrigation method, the sewage being carried across the creek by means of an inverted syphon. More than 50 acres of land was used to treat the sewage in this manner. This land might have been put to agricultural uses profitably, but under the existing conditions it was practically useless. It was finally decided to abandon all of the irrigation fields, and in their place substitute a modern biological works.

New Sewage Treatment Works.—Preliminary plans and studies were made for this type of works, and submitted to the Pennsylvania State Legislature, which made an appropriation of \$30,000. The contract drawings providing for alterations and additions to the sewer system and a treatment works of the biological type were approved by the Commissioner of Health during May, 1910. Shortly afterward work was begun, the works being completed and placed in operation during April, 1911.

Site of the Works.—The site of the treatment works

is on a 10 per cent. slope on the east side of Stony creek. The hospital buildings are all located on the opposite side of the creek, the nearest building being about $\frac{1}{2}$ mile away. The location chosen is such that the entire

sewerage system is operated by gravity, with the exception of two small sections of the ground in which it was necessary to resort to pumping. Two centrifugal pumps, one a 2-inch and the other a 4-inch, both automatically



GENERAL PLAN OF WORKS.

operated by electric motors, pump the sewage from the receiving wells into the gravity sewer. The main sewer discharges into a rag and screen chamber, from which the sewage is conducted to the works by an 8-inch, cast-iron inverted syphon—the same pipe which was formerly used in connection with the irrigation fields.

Rag Screen Chamber.—The screen chamber consists of two rectangular wells built in duplicate, in which are installed the inclined bar screens with 1-inch openings. The screens are cleaned several times daily, and the screenings consist principally of towels and clothing which the inmates tear into pieces and flush into the sewer system. The quantity of sewage produced daily is nearly 575,000 gallons, which is about 160 gallons per capita per day.

The works consist of 6 units, viz:—

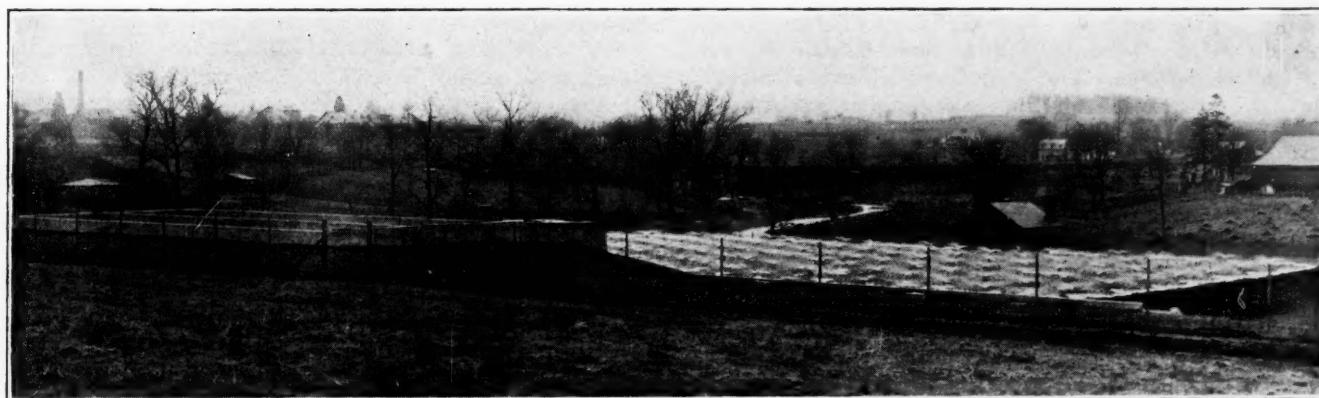
1. Primary settling tanks.
2. Dosing chamber.
3. Percolating filter.
4. Chemical house.
5. Secondary settling tanks.
6. Sand filter for sludge.

Primary Settling Tanks.—The primary settling tanks consist of two plain hopper bottom settling basins, each of which is 17 feet wide by 85 feet long. They are designed to provide a retention period of from 3 to 6 hours, when operated in parallel. Channels for distributing and collecting the sewage are provided on the respective ends of the tanks. The sewage enters the tank over four baffled weirs and is collected in a similar manner. Sluice valves placed on the influent channels allow either

depth of 6½ feet and consists of 1½ to 3½-inch crushed limestone and hard local stone. The distributing system is entirely cast-iron hub and spigot pipe, sizes varying from a maximum of 18 inches to a minimum of 6 inches. The lateral distributors are supported by square concrete piers about 3 feet high placed under each tee, in which the riser pipes are inserted. The riser pipes are made of fiber, 3 inches internal diameter, and on top of each is placed a bronze Taylor nozzle for spraying hexagonal areas. There are 120 nozzles on the bed. The entire filter is underdrained by a 10-inch cement channel pipe, laid on a concrete floor draining to the northerly end of the filter, along which the main drainage channel is located. The effluent from the percolating filter is carried through this channel into the chemical house.

Chemical House.—In the chemical house are located the tank for mixing the hypochlorite of lime and water, separate tanks for storing the solution and an automatic feed tank for adding the solution to the sewage. The effluent from the filter is carried through the chemical house by a rectangular channel which is a continuation of the main drainage channel of the filter. It is while passing through this channel that the solution of hypochlorite of lime is added. The strength of the solution and the rate of adding are so adjusted that about 3½ parts per million of available chlorine are added to the effluent before it enters the secondary tanks.

Secondary Settling Tanks.—The secondary settling tanks consist of two plain settling basins, each 16 feet by 62 feet in plan, and are operated on the same principle as the primary tanks. The effluent of these tanks



GENERAL VIEW OF WORKS. HOSPITAL BUILDINGS TO THE LEFT.

one of the tanks to be cut out of service. The distribution over the cross section is very even, and hence the "dead space" in the tanks has been reduced to a minimum. The tanks are operated in parallel except during cleaning time, when only one tank is in use. The sludge is removed from the bottoms of the tanks and conducted to the drying beds by gravity. It has usually been of good quality and under favorable weather conditions has been found to dry in a short time and satisfactorily. Application to the land is the means of ultimate disposal.

Dosing Chamber.—The effluent from the primary tank flows into the dosing chamber, from which it is discharged into the distributing system of the percolating filters by a 12-inch Miller syphon. The syphon, which is fitted for heads varying from 3½ to 4½ feet, discharges at approximately the 3½-foot head, each dose being slightly in excess of 5,000 gallons. An average cycle consists of 3 minutes of spraying and 9 minutes rest.

Percolating Filter.—The percolating filter is 100 feet by 173 feet in plan, and has a superficial area of about 0.40 of an acre. The filtering medium has an average

is collected over weirs protected by scum boards and is then allowed to flow into the stream. The sludge from these tanks flows by gravity to the drying beds adjacent.

Sand Filters for Sludge.—The sand filters on which the sludge is dried are two in number, divided by a concrete wall running through the center of the beds, and have combined an available drying surface of about 5,000 square feet. The filtering material consist of river sand 2 feet deep, which is underdrained by a system of 6-inch vitrified underdrains with open joints laid in crushed stone. The drain water from the sludge is collected and discharged into the main outfall pipe without further treatment.

General Layout.—The ground around the works has been neatly graded and a wire fence has been built around the entire works with gates at convenient places. The open space within the enclosure has been sown with grass seed and has the appearance of a well-kept lawn. The trustees of the hospital employ one man constantly to care for the works, he being the attendant formerly in charge of the irrigation fields. An additional laborer is employed during certain parts of the year to

assist the regular attendant in the outside work. The duties of the attendant consist of operating the hypochlorite disinfection apparatus, removing the sludge, and keeping the works plot in order.

primary settling tanks, but usually they cannot be detected more than 100 feet away. It is proposed to cover the tanks during the coming season.

The preliminary studies and construction plans for

BACTERIOLOGICAL RESULTS.

BACTERIOLOGICAL RESULTS.												
			Hospital Pathologist				State		Department of Health			
			Bacteria at 37° C.		Bacteria at 37° C.		Bacteria at 37° C.		B. Coli. Communis			
			Crude sewage.	Effluent primary sett. tank.	Effluent filters.	Final effluent.	Crude sewage.	Effluent filters.	Final effluent.	Crude sewage.	Effluent filters.	Final effluent.
January	1912	.....	690,000	667,000	173,000	1,420	540,000	235,000	600	33,000	8,000	0
February	1912	.....	390,000	272,000	43,300	480	335,000	172,000	91	42,000	12,000	0
March	1912	.....	297,000	287,000	80,400	640	115,000	92,000	21	13,000	5,000	0
April	1912	.....	326,000	370,000	92,000	390	410,000	106,000	70	7,000	2,500	0
May	1912	.....	370,000	337,000	102,000	6,500	436,000	225,000	254	52,000	15,000	2
June	1912	.....	457,000	417,000	118,000	17,500	752,000	432,000	1,080	115,000	48,000	110
July	1912	.....	290,000	270,000	71,500	2,000	780,000	136,000	1,540	110,000	4,000	11
August	1912	.....	256,000	193,000	59,500	2,000	1,125,000	210,000	9,640	270,000	17,000	750
Sept.	1912	.....	567,000	481,000	130,000	15,700	1,030,000	380,000	2,315	105,000	30,000	0
October	1912	.....	409,000	515,000	160,800	2,500	978,000	337,000	326	130,000	11,000	0
November	1912	.....	351,000	192,000	36,000	1,190	770,000	192,000	180	146,000	3,000	0
December	1912	.....	349,000	317,000	61,000	1,600	600,000	240,000	190	100,000	19,000	0
January	1913	.....	675,000	359,000	40,000	140	673,000	171,000	350	118,000	6,700	0

Costs.—The total cost of the works complete was about \$38,000, which includes filtering material furnished and delivered by the hospital.

Operating Results.—Two sets of samples are collected weekly, and usually on different days. One set of samples is iced after collection and sent to the laboratories of the State Department of Health in Philadelphia. The other set is collected by the hospital pathologist and analyzed in his laboratory at the hospital. Both sets are subjected to bacteriological analyses, counts being made at 37 deg. C. The State Department of Health also obtains counts on B. Coli. while the hospital pathologist merely makes presumptive tests. The reports have been consulted and average figures calculated for each of the last 13 months, which are given in the table. From these figures averages for the 13 months' operation were obtained, and the percentage reductions calculated based upon crude sewage. The percentage reductions through the works are graphically shown in the diagram attached.

The average percentage reduction of bacteria, according to the pathologist reports and based upon crude sewage and the final effluent, is 98.91, while the State Department's results on these samples show an average reduction of 99.8. The pathologist's report showed positive presumptive tests on crude sewage in all of the samples, while 70 per cent. of the samples of the filter effluents and 25 per cent. of the samples of the final effluent showed gas in varying quantities. The State Department reports further show that there was a reduction in B. Coli. of 99.992 per cent., based upon crude sewage and the final effluent.

The sewage is all fresh as it arrives at the works, and efforts are made to keep it so, and to pass it through the works as quickly as practicable. There are practically no odors at the works during the cold months, but during the hot months odors are plainly noticeable at the

entire work were made by Chas. F. Mebus, of Albright & Mebus, Consulting Engineers of Philadelphia, who also superintended the construction. The contractors were the Pitt Construction Company, of Pittsburgh, Pennsylvania.

SPRINGFIELD'S STREET RAILWAY FRANCHISE.

By GEORGE L. RINKLIFF.

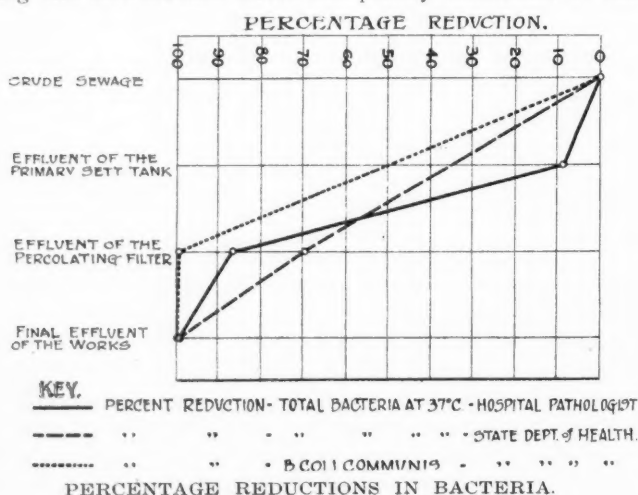
The city council of Springfield, Ohio, has passed a street railway franchise ordinance, renewing for 25 years the present grant of the American Railways Company, which is claimed by its framers to be the only one of its type in any city with a population of 50,000 in the United States. Cleveland, Chicago and Indianapolis furnished models for several of the principal features of the franchise, relating to service and the control of the company's lines, while the electrolysis provision in the Auburn, N. Y., franchise is closely followed, and supplemented by including in its operations all underground work installed by the city.

The ordinance is the result of several months of work upon the part of City Solicitor Howard E. MacGregor, and in drafting it he made a carefully considered effort to provide for the city the right to control the company's property, to the extent that the public, through the government of the municipality, can always secure the best service obtainable. All demands made upon the company by the director of public service for more cars, shorter intervals in the schedule on any line, double tracks, or compensation for damages resulting from electrolysis, with which the company fails to comply, are to be arbitrated.

The board of arbitration is to consist of three citizens of Springfield, one appointed by the city, another by the company, and the third selected by the first two. The concurrent decision of either two members of the board is to be final, and there shall be no appeal. The expense of arbitration shall be borne equally by the city and the company, excepting in cases relating to electrolysis, in which the entire expense is to be borne by the company.

The company, by accepting the franchise, assumes all responsibility for damage done by electrolysis to the city's water mains, conduits, or other underground construction. Tests may be made twice a year, by an engineer selected by the city and paid by the company, to ascertain whether or not current is escaping from the company's rails to the city's underground work.

The company is required to bear the expense of paving between its rails and eighteen inches on either side of the tracks, the contract for such work to be let by the city, and the work to be done in accordance with the plans and under the supervision of the engineering department of the city. One-third of the cost of erection



and two-thirds of the cost of maintenance of all public bridges over which the company operates cars shall be borne by the company. The company is further required to assist in paying for the installation of storm water sewers, to the extent that it is benefited by them.

The tracks of the company are to be swept, flushed, sprinkled and the snow removed from them, either by the company, or by the city at the company's expense. Repair work upon the company's property which is not completed within a reasonable time and which is a source of inconvenience to the public is to be completed by the city at the company's expense.

The company is required to keep on deposit a cash bond of \$2,000 as a fund out of which to pay the expense of such repair work. The company at present operates 30 miles of trackage in the city, and is required to install extensions aggregating ten miles in length, within three years, and to expend \$500,000 within the same period for extensions, new rolling stock, car barns and other improvements.

As a guarantee that it will carry out the provisions of its franchise, the company is required to furnish bond in the sum of \$25,000, and the franchise may furthermore be forfeited by the failure of the company to fulfill any requirement. In the event the company repeatedly fails to comply with any of the provisions of the franchise, the city may take possession of the road and operate it, paying the company an annual rental equal to six per cent. of the physical valuation of the property. The city, at any time after the first five years of the term of the grant, may purchase the road at its physical valuation.

The invalidation of any portion of the franchise annuls all of it. The company is required to pay to the city annually, for the first ten years of the term of the grant, one per cent of its gross earnings, and for the remaining fifteen years, one and a quarter per cent of its gross earnings, and an annual audit of the company's books shall be made by an accountant selected by the city, the expense of the audit being borne equally by the city and the company.

The rate of fare shall remain as at present, 5 cents for a single fare, six tickets for 25 cents, and 25 tickets for a dollar, until the gross earnings of the company shall reach \$800,000 annually, when seven tickets shall be furnished for 25 cents. Universal transfers are also provided for, together with a system of transfers from and to the four interurban lines operating within the city.

The ordinance was passed March 25 by the unanimous vote of the council within less than an hour after its introduction, and has been approved by the mayor. The company is required to accept the franchise within 30 days after its passage, and a referendum petition may be filed by the voters of the city within the same period.

SEWER PUMPS AT ST. CHARLES.

St. Charles, Mo., is a city of 10,000 population, situated on the west bank of the Missouri river. The main business street parallels the river for a distance of about two miles, varying in elevation from 2 feet below the high water mark of the river to 10 feet above. About 20 miles of house sewerage system has been laid, consisting of two 15-inch mains and 8-inch laterals. The two mains discharge into the Missouri river through two outfall sewers. On an average of once every five years, the Missouri river reaches such a height that the water backs into the sewers and fills about two miles of them, this condition lasting for two or three weeks.

About four years ago a pumping plant was placed at each of these two outlets to pump the sewage into the river during these periods of high water. Each plant

consists of a centrifugal pump operated by an electrical motor which is stopped and started automatically by means of a float after the main current has once been thrown on. One of these pumps has a capacity of two million gallons in 24 hours against a head of 15 feet and is operated by a 10-horse power motor with a guaranteed mechanical efficiency of 60 per cent.; the other pump has a capacity of 1,250,000 gallons against a 15-foot head and is operated by an 8-horse power motor with a guaranteed mechanical efficiency of 50 per cent. Each plant is installed in a pit and covered with a brick shelter house with a tile roof. Pumps and motors are both of the vertical type. This information was furnished us on April 3 by city engineer Carr Edwards, at which time the Missouri river had not risen to the point requiring pumping at any time subsequent to the installation of the pumps four years ago; consequently, no data concerning their operation were available.

TRAINING TOWER FOR FIREMEN.

The chief of the Fire Department of Watertown, N. Y., Fred Morrison, in his report for 1912 makes a recommendation which could be adopted by many other cities of second and third class size with benefit to their fire force. Quite a number of cities now have training towers, but we believe that practically all should do so. Mr. Morrison says in his report:

"The recommendation contained in my last year's report calling attention to the need of a training tower for the men of the department, I am sorry to say, has met with no response either from your honorable board or the Common Council. I deem such a tower one of the most important features of any department, and in its failure to provide means of training the men in aerial work and the handling of ladders, ropes and hose at high altitudes, the city is creating a condition of danger that menaces the lives of the firemen, many times of citizens as well; sadly hampers the work of the department, and may result in serious property loss. Few men now in the department have had any training in this direction. I am obliged to take men from the Civil Service, who, while they have passed a mental and physical examination, have no training or aptitude in this direction. A training tower should be so situated that apparatus may surround it and that aerial ladder trucks may work upon it, as with any building. Stairways for the training of men in the handling of hose and in rescue work; windows for similar training, and a roof with a cornice, such as men encounter in scaling any building, should be provided. The expense of such a tower, 75 to 80 feet high, built upon a concrete foundation, together with a lot of sufficient size to accommodate such apparatus as it would be desired to use here, would be between \$3,000 and \$4,000."

ABRASION LOSS REQUIREMENTS FOR BRICK.

A correspondent has sent us a statement of the requirements of a number of cities as to the abrasion loss specified by them for paving brick when tested in the new standard rattler recently adopted by the American Society of Municipal Improvements and other societies. In the standard specifications of the society named, 22 per cent. is given as the maximum allowed. The cities and the abrasion allowances are as follows:

Baltimore	20% and 22%	Akron, O.	22%
Chicago	21%	Columbus, O.	21%
Grand Rapids	22%	Toledo, O.	22%
Indianapolis	21%	Newark, N. J.	22%
Trenton, N. J.	20%	Philadelphia, Pa.	22%
Canton, O.	21%	Sandusky, O.	21%
Fremont, O.	22%	Sydney, O.	22%
Fostoria, O.	22%	Bryan, O.	22%

TABLE NO. 2. SIDEWALKS, CURBS AND GUTTERS LAID DURING 1912.

Data Received Since Publishing Similar Table March 6.

City.	Material.	Sidewalks		Material.	Curbs		Material.	Gutters		
		Sq. yds.	Cost.		Lin. ft.	Cost.		Sq. yds.	Lin. ft.	Cost.
Arizona:										
Douglas	Concrete	800	1.26	Concrete	400	.25	.....	.....	.....	...
Phoenix .....	.....	5,000	...	.....	.....	...	.....	.....	.....	...
Arkansas:										
Helena	Concrete	1,665	...	Concrete	6,600	..	Concrete	950	3,900	...
California:										
Pasadena	Concrete	7,000	.77	Concrete	70,600	.26	Concrete	.....	88,100	1.35h
Petaluma	Concrete	820	1.35	Trap	5,698	.175	Concrete	.....	14,303	.181
Riverside	Concrete	10,308	1.17	Concrete	8,884	.30	Concrete	1,756	5,644	.60
San Francisco	Concrete	8,585	1.08	Granite	118,442	1.35	Stone block	1,819	.....	.45
Santa Barbara .....	.....	.....	...	Concrete	11,285	1.175d	.....	.....	.....	...
Santa Rosa .....	.....	30,006	...	Wood	8,000	.15	Concrete	.....	5,000	.65d
Colorado:										
Denver	Concrete	45,208	.88	Concrete	632,443	.51d	.....	.....	.....	...
Pueblo	Concrete	13,000	.81	.....	.....	...	.....	.....	.....	...
Georgia:										
Macon	Concrete	79,000j	...	Granite	26,000	...	Concrete	.....	59,136	...
Illinois:										
Aurora .....	.....	.....	...	Gravel concrete	38,000d	...	.....	.....	.....	...
Marion	Concrete	38,566	.94k	.....	.....	...	.....	.....	.....	...
Monmouth	Concrete	7,000	1.17	.....	.....	...	.....	.....	.....	...
Indiana:										
Mishawaka	Concrete	3,554	.72	Concrete	2,996	.18	.....	.....	.....	...
Iowa:										
Burlington .....	.....	16,000	...	.....	5,000	...	.....	.....	.....	...
Waterloo	Concrete	2,255	...	.....	854	...	.....	.....	.....	...
Kansas:										
Fort Scott .....	.....	4,500	...	Sandstone	4,180	.35	Concrete	.....	14,136	.50d
Maine:										
Auburn	Tar Concrete	8,900	.75	Stone	1,134	.75	.....	.....	.....	...
Massachusetts:										
Easthampton	Concrete	1,000	1.44	Concrete	2,200	.80	.....	.....	.....	...
Michigan:										
Battle Creek	Concrete	30,096	...	Concrete	21,235d	...	.....	.....	.....	...
Minnesota:										
Crookstown	Concrete	40,473	.81	Concrete	285	.35	Concrete	.....	2,271	.40d
Owatonna	Concrete	1,240	.65	Concrete	3,697	.36	.....	.....	.....	...
Rochester	Concrete	4,355	.87	Sandstone	4,841	.73	.....	.....	.....	...
Montana:										
Helena	Concrete	27,200	1.23	Sandstone	26,066a	.37	Concrete	.....	12,720	.67d
Missoula	Concrete	22,544	1.53	Granite	.....	1.40	.....	.....	.....	...
.....	Concrete	.....	.....	Concrete	19,073	.37	.....	.....	.....	...
Nebraska:										
Norfolk	Concrete	7,000	.90	.....	.....	...	.....	.....	.....	...
Lincoln	Brick	50,900a	.81	.....	.....	...	.....	.....	.....	...
.....	Concrete	.....	1.08	.....	.....	...	.....	.....	.....	...
New Jersey:										
Atlantic City	Concrete	2,080	1.17	.....	.....	...	Vit. brick	846	3,020	2.41h
New York:										
Auburn	Concrete	14,330	1.17	Sandstone	3,031	1.00	.....	.....	.....	...
.....	.....	.....	.....	Concrete	23,779	.65	.....	.....	.....	...
Buffalo	Concrete	40,000	.99	.....	.....	...	.....	.....	.....	...
Boro. of Manhattan	Concrete	.....	...	5 x 16 Granite	449,000a	1.20	.....	.....	.....	...
Plattsburg	Concrete	9,745	.899	5 x 16 Bluestone	.....	.84	.....	.....	.....	...
.....	.....	.....	.....	Concrete	3,465	.38	Concrete	.....	2,191	.545d
Oklahoma:										
Bartlesville	Concrete	6,000	...	Concrete	39,000	...	Concrete	.....	31,000	...
Chickasha	Concrete	1,667	1.125	.....	.....	...	.....	.....	.....	...
El Reno	Concrete	16,000	.92	.....	.....	...	.....	.....	.....	...
Pennsylvania:										
Allentown	Concrete	13,128	1.44	Concrete	23,621	.55	Concrete	5,251	.....	.18
Corry	Concrete	1,000a	1.25	.....	.....	...	.....	.....	.....	...
.....	Brick	.....	.90	.....	.....	...	.....	.....	.....	...
Sharpsville .....	.....	.....	...	Concrete	1,200d	...	.....	.....	.....	...
Rhode Island:										
Providence .....	.....	.....	...	Granite	22,868	...	Cobble	8,893	.....	...
South Dakota:										
Lead	Concrete	586	2.52	Concrete	68	.66 1/4	Concrete	.....	64	.66 1/4
Sioux Falls	Concrete	2,000	...	Concrete	3,000	...	Concrete	.....	400	...
Texas:										
Fort Worth	Concrete	20,018	1.125	Concrete	70,746	.30	Concrete	26,212	117,744	.15
Laredo	Concrete	400	1.80	Concrete	1,500	...	.....	.....	.....	...
Washington:										
Spokane	Concrete	96,158	...	Concrete	155,760	...	Concrete	.....	16,368	...
Wisconsin:										
Milwaukee .....	.....	77,665	...	.....	.....	...	.....	.....	.....	...
West Allis .....	.....	.....	...	Concrete	26,838d	...	.....	.....	.....	...
Wyoming:										
Sheridan	Concrete	5,800	1.28	Concrete	5,000	.40	.....	.....	.....	...
Canada:										
Toronto, Ont.	Concrete	161,508	1.44c	Concrete	9,605	.52	Concrete	13,143	22,366	.26

a—Includes all kinds. c—One-inch wearing surface. \$1.62 for 1 1/2-inch wearing surface. d—Curb and gutter combined. h—Per square yard. j—Lineal feet. k—Includes grading. l—Per square foot.

Municipal Journal

Published Weekly at
50 Union Square (Fourth Ave. and 17th St.), New York
By Municipal Journal and Engineer, Inc.
Telephone, 2805 Stuyvesant, New York
Western Office, 1441 Monadnock Block, Chicago

S. W. HUME, President
J. T. MORRIS, Manager A. PRESCOTT FOLWELL, Secretary
A. PRESCOTT FOLWELL, Editor
F. E. PUFFER, Assistant Editor

Subscription Rates
United States and possessions, Mexico, Cuba.....\$3.00 per year
All other countries.....4.00 per year
Entered as second-class matter, January 3, 1906, at the Post Office at New York, N. Y., under the Act of Congress of March 3, 1879.

CHANGE OF ADDRESS

Subscribers are requested to notify us of changes of address, giving both old and new addresses.

Contributions suitable for this paper either in the form of special articles or of letters discussing municipal matters, are invited and paid for. Subscribers desiring information concerning municipal matters are requested to call upon MUNICIPAL JOURNAL, which has unusual facilities for furnishing the same, and will do so gladly and without cost.

APRIL 24, 1913.

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Underground Survey for Spokane.

The City Engineering Department, or as it is designated the Engineering Division of the Department of Public Works, of Spokane, Washington, in 1912 began a complete underground survey of the city, to include the location of all water and gas mains, sewers, electric light, and telephone and telegraph conduits. City Engineer Morton Macartney, in his annual report for 1912, says: "The need of such a record as this has been greatly felt for the last three years, but up to the first of the past year there seemed to be no way of working it out. The general plan of this underground record has been to complete a certain defined district, rather than to spread out and try to cover too large a territory in a casual or haphazard way. The work for the past year has been the accumulation of data and recording the same in the district bounded by Monroe street on the west, Division street on the east, the Spokane river on the north and Fourth avenue on the south. While we have fallen far short of completing the district outlined, we have made a very fair start on this and expect to complete that district during the present year (1913). The work of making this underground record has been considered a side issue of the office and has been taken up only at times when the general routine of the office permitted. We have found so far in our investigations that the record kept, not only in our own division, but in many public service corporations, have been inadequate and in many

instances very unreliable; and this record which we are preparing is going to be of inestimable value to them as well as to ourselves."

The cost of the labor ultimately used in locating unrecorded water or gas mains when making connections, locating leaks, etc., is many times that of recording the location when the main was being laid; to say nothing of the other serious results from such omission. Neglecting to record the exact location of everything placed under the street surface at the time of placing it is the most serious kind of carelessness or false economy.

Commission Government in Lawton.

The commissioners of the city of Lawton, Okla., have published in their annual report a brief statement of what the new commission government has effected; and while allowance must be made for the fact that it would be but natural for them to endeavor to make a good showing, the figures which they present certainly indicate that the financial conditions of the city have improved—and that it was high time they did. Their report is as follows:

A brief comparative statement of the results of less than fourteen months under the present system of government as compared with the aldermanic form will assist each taxpayer in arriving at his own conclusion. These statements are based upon authentic records of the city, and may be verified by any citizen as they are subject to inspection at all times.

When the commissioners assumed control of municipal affairs, November 6, 1911, they immediately reorganized all departments and systematized the city's affairs. In so far as practicable, they provided for retaining a majority of the elective officers of the former administration. The services of many appointees were dispensed with, and additional duties were imposed upon others without extra compensation. At present other changes are contemplated and will be made as soon as they are deemed prudent from a business standpoint.

On November 6, 1911, the city had to its credit in all funds \$405.31; had a deficit of \$18,000 in its sinking fund (a fund to be created for the retirement of bonds at maturity); had failed to provide for paying the annual installments and interest of the street intersection paving bonds on C, D, and E avenues, which amounted to \$42,437.57, and on account of which delinquency we were and are still paying 10 per cent. interest; had an outstanding warrant indebtedness of \$22,131.57, drawing 6 per cent. interest in addition to the indebtedness provided for by the \$70,000 bond issue of July 1, 1911; had all funds overdrawn and her treasury practically depleted and warrants being disposed of at from 50 to 85 cents on the dollar.

On January 1, 1913, the city had on deposit in the First National Bank \$41,600.51, drawing 4.3 per cent. interest; money in all funds; every warrant issued (except time warrants payable to the University Improvement Association, amounting to \$5,724.50) was cashed at par; a balance due from the county treasurer of \$7,153.77 for 1912 taxes, and has not received any of the 1913 tax.

The city taxes for the year 1913 will be higher than they were in 1912. The commissioners provided for a levy to create a sinking fund of \$20,250 and a levy of \$10,000 to apply on the retirement of the delinquent street intersection paving bonds. However, the levy made for the general expense of operating the city has been reduced from \$52,453.62 in 1911 to \$30,000 in 1912.

The commissioners meet regularly every day at 2 o'clock P. M. for the purpose of transacting the city's business.

One effort of the commission was defeated by the voters, by the use of the referendum—unfortunately, it appears to us. The physical valuation of the entire city water works system is \$474,799.04. Of this amount \$440,000 is represented by water works bonds running 25 years and drawing 5 per cent. interest. To provide for the payment of these bonds a sinking fund is created by law and a levy of 5 per cent. is required to maintain it.

The annual expense of the Water Department (exclusive of repairs and incidentals) for the past year was as shown in the table on the following page.

In an effort to remedy this condition the commission

passed an ordinance placing the department on a self-supporting basis, but was overruled by the voters.

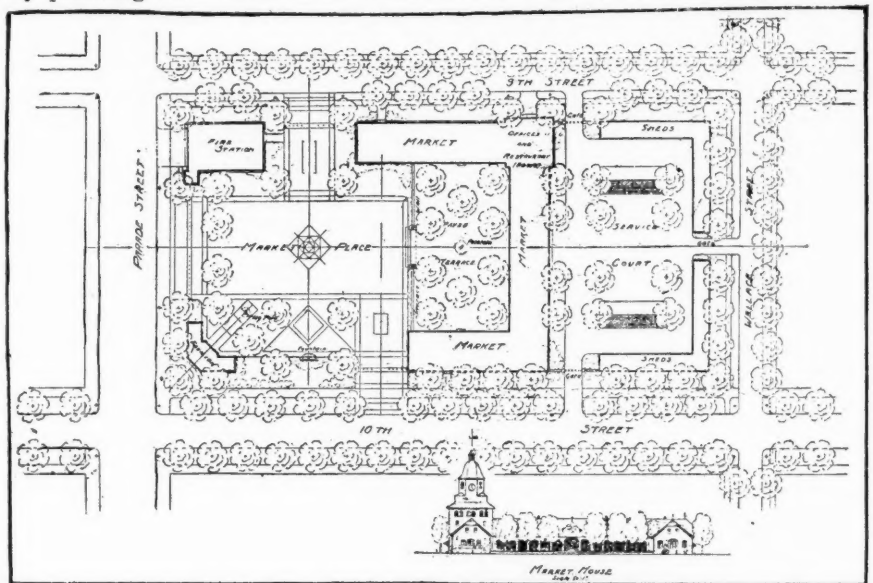
1 Bookkeeper	\$720
1 Machinist	900
1 Patrolman at dam.....	900
1 Caretaker at dam.....	840
Interest on bonds.....	22,000
Sinking fund	22,000

Total\$47,360
Annual receipts (approx.)..... 15,014

Annual deficit\$32,346

PROPOSED MARKET FOR ERIE.

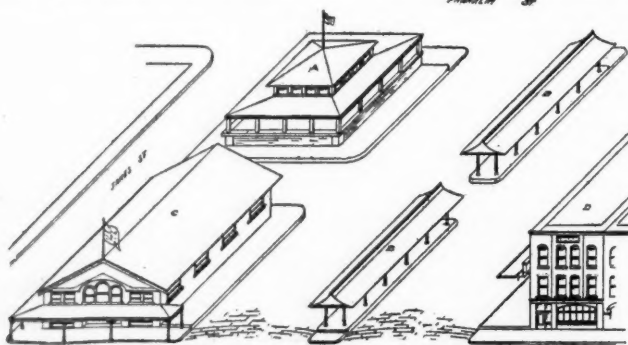
The City Planning Committee of Erie, Pa., is adopting a recommendation of John Nolen, the city planning expert employed by them, who recommended that Erie acquire a suitable tract for a permanent public market and develop it along the lines adopted by other progressive cities. There are already privately owned market houses in the city, but these are crowded and their management is not all that can be desired. His idea of the municipal market is that it be designed as a neighborhood centre, owned by the city in order that increasing rentals which would be charged by private owners and the increased value of property might not work to the increase in prices of the products sold; also that the city might have absolute control of the arrangement and sanitation of the market, inspection of food, etc. The accompanying illustration shows Mr. Nolen's idea of a market place, in which there is also a fire station, public comfort stations, etc.; trees and parking being combined with these to make the spot attractive.



PLAN FOR PUBLIC MARKET AT ERIE, PA.

PROPOSED SAGINAW PUBLIC MARKET.

A plan for a public market at Saginaw, Mich., has been prepared by City Engineer H. H. Eymmer and approved by the Board of Public Works. Nearly a whole city block is covered. The building lettered A in the sketch is an enclosed market for permanent stock, to contain 16 stalls enclosed, screened and well lighted. BB are market sheds having 24-foot canopies sheltering 16-foot sidewalks and extending 4 feet over the wagons on either side, thus sheltering both purchasers and goods. C is at present a livery stable, but should the city require the property it is proposed to remodel the building and use it for cold storage of fish, poultry, etc. D is at present the Highway Department barn, which is to be vacated when the city obtains new storage yards and may be changed into a rest room for those having business at



SKETCH OF MARKET PROPOSED FOR SAGINAW.

the market. Here also will be the offices of the market superintendent, with city pay scales, and a men's smoking room. A hay market will be located opposite the building C. About \$15,500 is already available for proceeding with the plans.

UNIT COSTS IN COLUMBIA.

In his annual report for 1912, John McNeal, city engineer of Columbia, S. C., has the following to say concerning accounting by municipal departments:

Municipalities have been called monopolistic corporations on the ground that their operations are not subject to the effect of competition, but it has been the aim of this department, by keeping careful physical statistics and utilizing them in the calculation of unit costs, to thereby create a

competition within itself, which has had the effect of revealing losses in cost accounts which were immediately corrected and reducing the cost of work done by the city force.

These unit costs have also shown that certain classes of work may be done by the city's own force at a saving to the city over contract prices.

It must be remembered, however, that our calculations are based on the actual cost and do not include a reasonable profit, which the contractor's figures show and to which he is justly entitled.

Some branches of the city work in this department have been seriously handicapped by lack of efficiency and until a personal incentive and standard of accomplishment is provided, it will be difficult to improve this condition.

From the records kept by Mr. McNeal, it appears that the cost of cleaning with horse machine sweepers and an automatic flushing machine, assisted by laborers with hand brooms, averaged 22.5 cents per 10,000 square feet per cleaning; this not including the removal of the sweepings from the streets, which was done by the scavenger department.

Seven horses and 26 mules were maintained at the city stables at a total cost, including harness and wagon repairs, of \$7,433.69, or \$18.77 per month per head.

The city force laid seven-tenths of a mile of cement sidewalks, or 3,459 square yards, at an average cost of \$1.04 per square yard. (The city pays half of the cost in front of private property and all of the street intersections.) Granite curbing was laid by the department forces at an average cost of 60 cents per lineal foot. All the street paving was done by contract, the paving done last year consisting of Bithulithic on a 5-inch concrete base at \$2.12 per square yard, and vitrified brick on a 5-inch concrete base at \$2.19 per square yard.

NEWS of the MUNICIPALITIES

Current Subjects of General Interest Under Consideration

by City Governments and Department Heads

ROADS AND PAVEMENTS

Concrete Company Builds Sidewalks.

Coeur d'Alene, Idaho.—The Two-Miracle Concrete Company, which has the contract for laying concrete sidewalks throughout the city, which they were unable to complete last fall, have begun work with a large crew of men. There are about 18 miles of walk yet to be laid under their contract.

Temple Street Paved.

Temple, Tex.—The paving of Central avenue with vitrified brick, from Second street, in the business section to Fourteenth street, the Missouri, Kansas & Texas passenger station, has been completed and the street is open for travel. The paving extends a distance of six blocks, or slightly over one-third of a mile.

County Road Established.

Goodland, Kan.—Sherman county is taking the lead of western counties in the matter of good roads. The county commissioners have located and established, through the county engineer, G. W. Sapp, of Goodland, a county road running east and west through the entire county. The road commences at a point on the east county line a quarter of a mile west of Brewster and runs west along the Chicago, Rock Island & Pacific railway through Edson, Goodland, Ruleton and Kanorado to the Kansas-Colorado state line, west of Kanorado. The contract for building the road thirty feet wide and thirty-nine miles long has been let. New bridges and culverts will be put in over every draw and creek through the country. So much of this county being a fine level country, this will be one of the finest highways, especially for automobiles, that is to be formed throughout the state. The Golden Belt Auto Route, also the Rock Island Auto Route from Atchison to Denver, will each traverse this Sherman county highway.

Plan to Improve Annex Streets.

Baltimore, Md.—The development of 52 streets will be the contribution of the Commission for Opening Streets toward the improvement of the vast portion of Baltimore known as the Annex during the present year. Fifty-two streets in different portions of the outlying communities of Baltimore have been chosen to be paved, curbed and graded during 1913 and incorporated in an ordinance which is now pending in the City Council. Contracts for the contemplated work on these streets will be awarded after the passage of the measure. The part played by the Commissioners for Opening Streets, who also serve as members of the Annex Improvement Commission, in the development of outlying sections of the city toward placing real estate there on a better basis is great. It is the decision of members of the Commission to cut through a street here, to grade and pave a street there that converts acres of unimproved farm lands into valuable and desirable building lots.

And so, as the operations of the Opening Streets Commission help the property owner, they also benefit the city; for the acres of farm lands, converted as they are into building lots, are then taxable not on their acreage but on their frontage. The city, too, derives the benefit from taxes on improvements to the land which is certain to follow the cutting through of streets. During 1912 the Commission for Opening Streets placed 130 streets in the annex under contract. The grading, curbing and paving of 27 of these streets has been completed, covering 79,000

square yards, or a linear distance of 3.8 miles, at a total cost of \$184,638.78. Total expenditures by the Commission for work done in the Annex, including both the opening and paving of streets, amount to \$250,906.02. Eugene E. Grannan, president of the Commission for Opening Streets, says it is absolutely impossible to estimate to what extent these improvements have enhanced property in the sections where they have been made. The amount to which the value property has increased is enormous, he declares.

County Will Buy Moorestown Pike.

Camden, N. J.—The Board of Freeholders voted to purchase that portion of the Camden and Moorestown turnpike within the limits of the county for \$23,000. This purchase also includes a gravel pit of eight acres at Amon Heights. The conditions of the purchase are that the turnpike company assign all the rights and concessions that they hold against the Public Service Corporation, and that the borough of Merchantville and the township of Pensauken each pay 10 per cent. of the cost and the State Highway Department pay 33⅓ per cent. If this proposition fails, then the state is to take it over and make it a state road under an act of the legislature signed last week by Governor Fielder.

Work Begins on Street Paving and Sewers.

South Bethlehem, Pa.—Workmen under Superintendent S. W. Chiles have begun paving with Amiesite the roadway on Northampton avenue, between Second and Third streets. This section of street is part of the streets to be paved as provided for in the permanent street paving ordinance for which a \$42,000 bond issue was made. The estimated cost of paving the Northampton avenue section is \$2,400. The contract last summer was awarded to R. P. Bennis, Philadelphia. Second street, between New street and the Philadelphia & Reading Railroad was paved last fall and was done under the permanent street paving ordinance.

New Street Signs for Wenatchee.

Wenatchee, Wash.—Wenatchee is to have sign-boards bearing the names of the streets at all intersecting streets. At the last meeting of the City Council, City Engineer Powell was instructed to prepare designs for the signs.

Motorists Build Roads.

Meeker, Colo.—In their determination to secure good roads, Meeker automobilists have added to the equipment of their machines shovels and drags, and one day last week every auto in Meeker was out with the road-leveling apparatus, and good work was accomplished by their use. They have determined to make the county roads of Rio Blanco the best in the state.

Project for Building Municipal Asphalt Plant.

Los Angeles, Cal.—Plans are being formulated by A. C. Hansan, Inspector of Public Works, for the installation by the city of a small municipal asphalt plant for turning out the surface mixture necessary to repair the city's asphalt pavements. When the budget is being made up for the coming year, Mr. Hansen will make a request for an appropriation of \$5,000 or \$6,000 for the purpose of establishing a small plant on ground owned by the city adjacent to the city incinerator on McPherson street. It is planned to use waste steam from the incinerator to operate the plant and therefore save considerable money both in initial and operating expenses. Mr. Hansen figures that

the character of the soil is such at the plant that sufficient sand can be obtained on the ground without hauling or other expense to manufacture the surface mixture at a lower figure than the city now is paying under contract. There is a railroad side track at this point also and this is a big factor in having the raw material shipped in. Former estimates of the cost of establishing a plant have included the purchase or lease of a site, a steam boiler and the hauling of sand to the plant, all of which are eliminated in the contemplated arrangement. It is planned to purchase what is known as a portable plant, several types of which may be purchased in the open market. Most of the additional cost would be in the construction of a building of corrugated iron and bins for holding the asphalt and other material. It is desired to begin with a small plant, as the maintenance of a larger establishment than was necessary to do the city's work would increase the maintenance and defeat the real object of the enterprise.

Work on Country Roads.

Philadelphia, Pa.—With the \$300,000 available for the purpose this year, Chief Connell, of the Highways Bureau, expects to repair and rebuild about 25 or 30 miles of country roads. With \$470,000 for the purpose in 1912, 24 miles of roads were repaired with bituminous binder and 21 with water-bound macadam. The plans for this year were prepared after a survey of the condition of the roads, and it was decided to spend the money where the best results could be obtained and on the roads most frequently used. The Department of Public Works is now advertising for bids for the resurfacing of country roads, which will include Overbrook avenue, from 54th street to city line; Lancaster avenue, from Woodbine avenue to city line; City avenue, from 50th to west of 57th street, and Belmont avenue, from City avenue to Parkside avenue. All sections of the city are represented, and attention is given to the roads in the northeast and northwest, that will lead to the improved Bensalem pike, which is part of the trunk road system to New York.

SEWERAGE AND SANITATION

Must Build Sanitary Milk Houses.

Pittsburgh, Pa.—Scarcity of milk in Pittsburgh will result May 1 through the enforcement of an order from the city department of health requiring sanitary milk houses on all dairy farms of which products come to the city. Compliance with this order makes necessary the expenditure of approximately \$800,000 by farmers. The order affects 8,000 dairy farms, mostly in Ohio, providing 6,000,000 pints of milk each day for Pittsburgh consumers. Failure to comply with the order for new milk houses, which must be of stone, brick or cement, and having cement or tile floors with proper drainage, will result in the milk from any dairy not so equipped being refused at the numerous collecting stations in Ohio.

Favors Paper Bottles.

Ogden, Utah.—Notwithstanding the fact that the law states that nothing but glass bottles are to be used in delivering milk Sanitary Inspector George Shorten has communicated with the state authorities regarding the using of paper containers, a sample of which has been sent to him and use of which he seems to favor. The adopting of the paper container is said to meet with the approval of many milk dealers. The dealers contend that the containers are absolutely sanitary, as they can be used only once, yet the cost is less than bottles. The paper milk bottles are cylindrical in shape and are made in all sizes.

Cost of West Summit Sewer, \$58,000.

Summit, N. J.—While no assessment has thus far been made on the cost of the West Summit sewer, it is estimated that the expense of the big drain will not be less than \$58,000. How much of this will be borne by the city will be determined by the assessment commissioners, who will submit their report to the Common Council for confirmation.

The sewer cost much more than the original estimate. This is due in a large measure to unforeseen difficulties, as soon after the contract was let to Michael Loprete, of Orange, and he began digging, large quantities of quicksand were encountered. Loprete threw up his contract and it was taken over by the Massachusetts Bonding and Insurance Company, which was the surety on his bond. Whether or not the bonding company came out whole on the contract is a debatable question, but it is believed that it lost some money. The bonding company imported "sand hogs" and by expert engineering work and the aid of air compressors, kept back the water and shifting sand until finally the job was completed.

Resume Sewer Work.

Erie, Pa.—Employees of the city engineering department have completed the large sewer break in Fifth street, between Myrtle and Chestnut streets. They found the sewer tiles broken into innumerable pieces. Joseph McCormick & Brother, contractors, have completed the sewer in Third street, from Wallace street west 300 feet. This firm has also resumed work on the storm sewer system in Cascade and Raspberry streets. The system was completed as far south as Eighth street in Raspberry. It will now be necessary to move the south street car track on Eighth street, between Cascade and Raspberry street, and likewise to cut out a portion of the pavement. However, it is not expected that the operations will hinder street car traffic as the north track can be used.

WATER SUPPLY

Water System for New Duluth.

New Duluth, Minn.—With the arrival of the new steel supply tank for the New Duluth water system, local residents now expect to have water running by the middle of May. Work on the mains has been completed and it is now planned to start on the pumphouse and the erection of the tank, the foundations and supports for which are now being built. The pumphouse will be located near the foot of Commonwealth avenue and will be near the three large wells, now being dug. One of the wells has been completed, while work on the other two is progressing rapidly. The supply tank will have a capacity of 10,000 barrels and is to be erected directly north of the suburb. The tank is 175 feet high. The new water system will cost about \$35,000.

Test Well Provides Ample Water.

Amity, Ore.—A test well for the city of Amity has just been drilled by George E. Scott of Portland, and an abundant supply of water secured, at about 90 feet. A test pump was put to work and run for 12 hours, pumping a stream flowing 4,000 gallons an hour, which it is held will furnish the city with abundant water for a water system which will perhaps be the next project.

Municipal Water Works Barred.

Trenton, N. J.—The Supreme Court affirmed the decision of the State Water Supply Commission in refusing to permit the establishment of a municipal water works at Collingswood. The commission decided that an independent company was supplying water there at reasonable rates and that a rival company would not financially benefit the public and would tend to destroy the water supply.

Pocket in Canyon to Be Used for Reservoir.

Salt Lake City, Utah.—Plans for construction of a monster storage reservoir in City Creek Canyon at little cost to the city and without necessity of building a dam that would be a constant menace to the city have been worked out by F. S. Fernstrom, city right of way and claim agent, and submitted to the water department officials. Mr. Fernstrom would construct a reservoir in Little Valley, a short distance above the intake of the high-line pipe that will hold nearly a billion gallons of water in storage and would provide a supply and a pressure that would guarantee the city against water famine or shortage for years to come, it is said. His scheme is to excavate the reservoir out of the

earth and make the earth and mountain sides for the holding walls. This would eliminate danger of dam breakage and consequent floods. Little Valley is on a high bench some five or six miles from the mouth of the canyon at an elevation a little greater than the highline intake. There are two or three hundred acres in the valley which lies in a pocket of the canyon so that, with comparatively little excavation, an immense reservoir could be scooped out. It is believed the bottom soil is clay and would hold water without cementing. It is estimated that the reservoir could be built for about \$25,000 or \$30,000 and at least a third of the cost could be realized by the city in sale of the gravel excavated. A number of gravel men are applying for permits to take gravel from this place, and Mr. Fernstrom declares that sufficient contracts could be let to have the excavation done by them, and the city realize 25 cents for every load. The proposition is declared by other city officials the most feasible suggested to increase the water supply.

Water Company Organized by Town and Citizens.

Roanoke, Ind.—Roanoke is now virtually assured an adequate municipal water service. The issue has been quietly worked out and plans are well formulated to organize what will be known as the Roanoke Water Company, the organization to be jointly between the town as a corporation and a body of citizens.

Meter System Will Be Established at Defiance.

Defiance, Ia.—The council has decided that all those putting in city water would have it furnished free until July 1. After that a meter system will be established, but the rate has not yet been decided on.

Works on Morris Dam.

Waterbury, Conn.—The working force at the new dam at Morris is now something over 100 men and it is the intention of the contractors to gradually increase the number until fully 200 are engaged in the work of constructing Waterbury's new source of water supply. Forms are being erected for raising the core wall at the dam. The wall, when completed will be 138 feet in height. Up to the present the construction work has risen to a height of 118 feet.

Heavy stone paving is being laid on the slope of the earth-work, and a considerable amount of this work remains to be completed. A second movable steam derrick is being completed and when this is finished two gangs can be employed on the work instead of one as heretofore. It is expected that the paving work will not be completed until late in the summer. Two new steam derricks are being used in the quarry, where stone is being turned out in large quantities.

Install Water Meters at Waco.

Waco, Tex.—The Waco Water Company has begun installing meters on consumers' pipes. Five hundred meters have been ordered for a starter. It will require about 8,000 for the entire city, but the company intends to put in the meter system throughout and will push the matter until all water consumers are supplied. The water commissioners declare they have been driven to the meters by waste of water. They are putting in \$400,000 worth of improvements in order to furnish an abundance of water and they are determined to conserve the supply. They foresee that owing to the rapid growth of the city the extensive new pumping plant will be unable to furnish water unless waste be checked. It is expected that by the time the improvements now being made are completed the meters will be installed all over the system.

Ellensburg Owns New Water Works.

Ellensburg, Wash.—That Ellensburg's \$150,000 municipal water works will be ready for use within a few weeks is the statement of Samuel Kreidel, chairman of the special water committee of the City Council, upon his return from a trip of inspection to the city wells. "There remains but 4,500 feet of pipe line to be laid in the city," said Mr. Kreidel, "and the workmen are finishing this task at the rate of

1,500 feet a day. But for the fact that one or two disgruntled property owners are putting obstacles in the way of the ditch digging and pipe laying, the entire distributing system could be in place and ready to deliver water by the first of the week. At the city wells work is progressing rapidly. The big pumps have arrived and are in place, and we could be delivering water now. No effort will be made to start the big pumps until the pump-house is completed and roofed, as we do not wish to take any chance of having rain rust the machinery. The pump-house will be of concrete and 19 feet high. Walling up of the house is well under way and the building will be completed within a few days. The big reservoir near the wells will be ready for water within three weeks. Workmen are now engaged in scraping off the small patches of concrete caught by the early frosts. The reservoir will be lined with concrete and then coated with asphalt. Upon the completion of this work the reservoir will be filled and the distributing system given a tryout for leaks."

Gas and Water Shortage.

Kendallville, Ind.—The most serious municipal question facing Kendallville is the water shortage. Although new wells have been driven, and the old wells lowered, the supply has not been materially increased, and the city officials are considerably worried about the situation. Gas, too, has been low from time to time, and people in the northern part of the city have registered numerous complaints.

Investigate Water Supply of Flood District.

Champaign, Ill.—With a view to assisting authorities at Cairo and other flooded towns in purifying their water supply, Professors Paul Hansen, W. G. Stramquist, H. P. Corson, Ralph Hilsener, W. F. Angler and F. W. Tanner, members of the Illinois Water Survey Commission, have gone to Cairo.

Temple Waterworks Valuation.

Temple, Tex.—The report of the Board of Water Commissioners just published shows the value of the Temple municipal waterworks plant at \$376,000. The plant was purchased less than six years ago, since which time the revenues have amounted to nearly \$120,000, all of which have been systematically placed in improvements and extensions of the plant, which is governed by a commission of six citizens, serving without compensation, the active management being in the hands of Superintendent Pat Bracken, a trained and skilled operative.

Bayonne Has a Water Famine.

Bayonne, N. J.—Bayonne was threatened with a water famine again when a serious break occurred in the pipe line of the Suburban Water Company, which supplies the city with water. The pipe broke on the Hackensack Meadows, near the Lackawanna Railroad. The water supply of Bayonne ceased to be available shortly after 4 o'clock in the morning, when the pipe line parted and flooded the meadows. Emergency gangs were sent by the water company to the scene of the break, and Chief Engineer Charles Van Keuren, of Jersey City, was summoned from his bed and got his water department gang out to turn a portion of the Jersey City water supply into the Bayonne pipes and insure relief to the city, which for a short time was in grave danger, as there was no water for fire or other purposes.

Blasting Breaks Water Main.

Richmond, Ind.—By the use of dynamite in blasting a stump directly over the water main, millions of dollars worth of property was endangered by lack of fire protection and thousands of dollars loss was sustained by paralyzed industries because of a break in the 20-inch water supply main of the Richmond City Water Works Company in the river bottoms just east of Hawkins Park. As soon as the break was reported every effort was made by the company and city officials to restore service for fire protection and domestic use. Superintendent Howard A. Dill, of the water works company, went immediately to the scene of the trouble and had new 20-inch steel pipe taken

out with a force of men to repair the break. Owing to the necessity of pumping out by hand the water from the pool which formed about the break, the delay in getting the break repaired was exceedingly long and irksome.

New Pump in Commission.

Baltimore, Md.—A button pressed by Mayor Preston at 3 o'clock the afternoon of April 11 put into commission the new 30,000,000 gallon pump in the Mount Royal pumping station. This pump was installed at a cost of \$113,000. The contract was awarded last August.

City Buys a Steamer for Thawing Pipes.

Bismarck, N. D.—The city has purchased a steamer, which will be used for steaming out frozen hydrants, culverts and pipes. It consists of an upright boiler about six feet high and about two feet in diameter, with a heater in connection. The steam is conducted wherever desired through a hose. It has been mounted on a stoneboat temporarily. Fire Chief Thompson tried it out on a number of culverts and found it a very efficient apparatus.

STREET LIGHTING AND POWER

Cheaper Electric Light.

Fall River, Mass.—The Fall River Electric Light Company has announced a reduction in its lighting rates to take effect next month. Under the new schedule Fall River will secure the lowest lighting rate charged by any central station in Massachusetts and, with the exception of one or two large cities, the lowest rate in New England. The base rate hereafter will be ten cents per kilowatt hour, with a graduated reduction to four cents. From these rates a discount of five per cent. for prompt payment of bills will be allowed. The company will abandon the minimum charge of one dollar a month.

New Electroliers Light City.

Sacramento, Cal.—The business streets of Sacramento within the electrolier district blazed forth into a great white way when the current was turned on and the electroliers were uniformly lighted for the first time since their installation. They will continue to be lighted, the current to be paid for by the city. The entire electrolier system was not put in operation owing to the failure of some of the property owners to pay for the cost of installation. To enforce the payment the proposition of forming a lighting district is being considered.

Lighting Plant Shows Economy.

Orange, N. J.—Through the operation of the municipal lighting plant, the city of Orange was able to save more than \$11,500 last year, according to the annual report of Chief Engineer Henry Berg, submitted at a meeting of the Common Council. The total cost of operating the plant was \$23,750.14. For this the city received street light service equivalent to 417 arc lamps, making the cost per lamp \$56.95. This is \$6.58 lower than the estimated cost per arc lamp made by Runyon & Carey, the consulting engineers, who supervised the installation of the system. Under the last contract with the Public Service Electric Corporation, the city paid \$85 per lamp. The cost shown by last year's report was \$50.95 per lamp, exclusive of replacement, which was not then provided for and which figures about \$9.10 per lamp on the present basis. According to the engineer's report, the actual cost of operating the plant was \$14,734.84. To this was added \$4,500 for interest; \$4,606 for the replacement fund, and \$270 for interest and depreciation on extensions and auto truck. These figures show a total cost of \$24,110.84, but from this amount two credits were allowed, \$300 for lighting service at the power plant, charged to the water department, and \$60 from the sale of ashes. The engineer reported that the municipal power plant provided lighting service for 372 arc lamps and 181 tungstens, or a total equivalent of 417 arc lamps. It was stated that this service has loaded four of the arc machines to capacity, the other machine at the plant being held in

reserve. If any material increases are made in the number of lamps, Mr. Berg stated, an additional arc machine must be installed. To avoid this he recommended that when more lights are needed some of the present arc lamps be replaced with tungstens.

Work Rushed on Light Plant.

Kendalville, Ind.—The Beers-Offutt Construction Company, of Fort Wayne, are rushing work on the new addition to the city lighting plant, and expect to have the work finished some weeks ahead of time. The excavation for the addition has been completed, and work on the foundations has begun.

Electric Power to Nashville from Ocoee.

Chattanooga, Tenn.—The Tennessee Power Company has placed in position the last of its 1,300 poles for the transmission of electrical power from its plant on the Ocoee river to Nashville. These poles average 55 feet in height, some, however, being 205 feet high, according to location and the topography of the land through which the transmission line passes. The cables to be strung on these poles will carry a voltage of 2,300. The line starts at Ocoee and runs to Cleveland, from which point it radiates, one line coming to Chattanooga, another to Rome, Ga., and the third to Nashville, and one to Knoxville. All except the Nashville line have been in operation for several months, but the Nashville line has not yet been put to use. The Nashville line goes from Cleveland to Sale Creek, where it crosses the Tennessee river on four steel towers 203 feet high, thence over Walden's Ridge, 15 miles from College, in Sequatchie Valley. From there it runs over the Cumberland Mountains to Great Falls on Caney Fork, where a second or supplemental hydro-electric plant is to be built. From Caney Fork the line follows Stone river, passing through Woodbury, Murfreesboro, Smyrna and Lavergne. It is expected to have the current going over the transmission line by April 15. Sub-stations will be constructed along the route to furnish electricity for power or light to places desiring it.

FIRE AND POLICE

Will Light Streets on Night Alarms.

Lexington, Mass.—A plan has been agreed upon by the selectmen and officials of the Edison Electric Illuminating Company, of Boston, by which if the fire alarm rings between 1 o'clock in the morning and daylight the company will turn on all the street lights, so as to aid the fire department in finding its way along the streets to the fire. The Edison company is to be notified by the police department whenever there is a fire.

Fire Department for Hope Within a Short Time.

Hope, Ark.—Hope will be able to boast of a real "fire department." The council has purchased a modern combination chemical and hose wagon with the most modern equipment for fighting fire. The fire station is being enlarged and a second story added which will afford accommodations for a full force of firemen and horses. Horses have been purchased and the outfit will be installed.

Policewomen to Be Armed.

Philadelphia, Pa.—Philadelphia now has two policewomen. Director of Public Safety Porter swore in as special policewomen Miss L. M. Gillespie and Mrs. Mary D. Diehl, agents of the Travelers' Aid Society, giving them authority to make arrests for any offense in the two principal railway terminals of the city. They will be provided with special police badges and will be permitted to carry revolvers and blackjacks. In case they are unable to make arrests single handed they are empowered to appeal to spectators for assistance. Although women have often been sworn in as special officers in department stores in Philadelphia, this is the first instance where they have been vested with such a wide scope of authority.

MOTOR VEHICLES

Fire Apparatus Must Go Slower.

Grand Rapids, Mich.—A decrease in danger from speeding fire apparatus is expected to result from the action of the board of police and fire commissioners when it adopted the set of rules compiled by Fire Marshal Lemoin. The rules call for a speed of 10 miles an hour in crowded business streets under favorable conditions and not more than five when the streets are wet or icy. In the daytime, the maximum speed must not exceed 25 miles an hour in the residence district, and at night must not exceed 20 miles. Gongs must be sounded at every crossing.

Pacific Coast's Best Equipped Engine House Dedicated.

San Francisco, Cal.—The most completely equipped fire engine garage on the Pacific Coast was dedicated at Stockton and Greenwich streets, when the newly-completed building which will house Engine Company No. 28 of the San Francisco Fire Department was made the scene of an opening reception by the residents of the North Beach district.

The accompanying picture illustrates those who participated in the dedication of engine house 28. From left to



Courtesy San Francisco "Chronicle."
DEDICATING ENGINE HOUSE NO. 28.

right, Dr. A. S. Musante, W. H. Hammer, N. T. Giacomani, Supervisor Edward L. Nolan, Mrs. John S. Phillips, Chief Thomas Murphy, Eugene E. Pfaeffle, Battalion Chief M. O'Brien. The motor engine installed in the new building is of 90 H. P. All of the apparatus which will be housed in the new engine-house will be motor driven and of the latest models. Captain S. E. Kennard will be assisted by Lieutenant Nicholas Munson in his duties in charge of engine company 28.

Officials Inspect New York City's Fire Trucks.

Rochester, N. Y.—Commissioner of Public Safety C. S. Owen and Fire Chief Charles Little made recently an inspection trip to New York. Both made a thorough inspection of the New York department, devoting themselves especially to the motor apparatus, of which New York at present possesses about 100 pieces. They were given a ride on one of the tractor fire engines, and while they had been previously converted to the advantages of motor apparatus, they came back to Rochester with their belief strengthened. Commissioner Owen will take up with Mayor Edgerton in the near future the purchase of a chassis for a new motor wagon, for which plans have been talked of for some time, the body of the wagon to be built in the city shops.

Wants Motorcycle Fire Apparatus.

Evanston, Ill.—Now that the Evanston police department has secured a new automobile and the chief and other officers

are enabled to whiz through the city streets, the envy of the fire department has been aroused, and it is agitating the purchase of a three-wheeled motorcycle fire engine, to be used at the North End station. Chief Harrison says that a chemical engine equipped with a chemical tank of 35 to 40 gallons capacity, a hose, firemen's tools, and capable of carrying one fireman, can get to 90 per cent. of the fires in the North End in a very few minutes' time, and so quickly as to prevent a very large proportion of the damage which is now incurred before the heavy horse-drawn chemical can be taken to the scene of conflagration.

Webb Holds Motor Pumping Engine Record.

Allentown, Pa.—The accuracy of a local news item appearing in our issue of April 17 sent us from Rochester, N. Y., is challenged by the Webb company. The item stated that the Fuch's engine had pumped for 37 hours and 20 minutes continuously, and that this creditable performance was a world's record. The latter part of this statement is plainly an error. As the Webb company stated on March 20, 1912, the motor pumping engine No. 7 of the Akron fire department, a Webb machine, pumped continuously for 91½ hours. The fact has been certified to by Chief Mertz. About two weeks ago engine No. 7, Akron fire department, pumped continuously for 41 hours in actual fire service. The Ahrens-Fox record of 18 hours 13 minutes referred to in the Rochester item was also beaten by a Webb at Calgary, Canada, which pumped for 36 hours, the atmospheric temperature being at the time 26 degrees below zero.

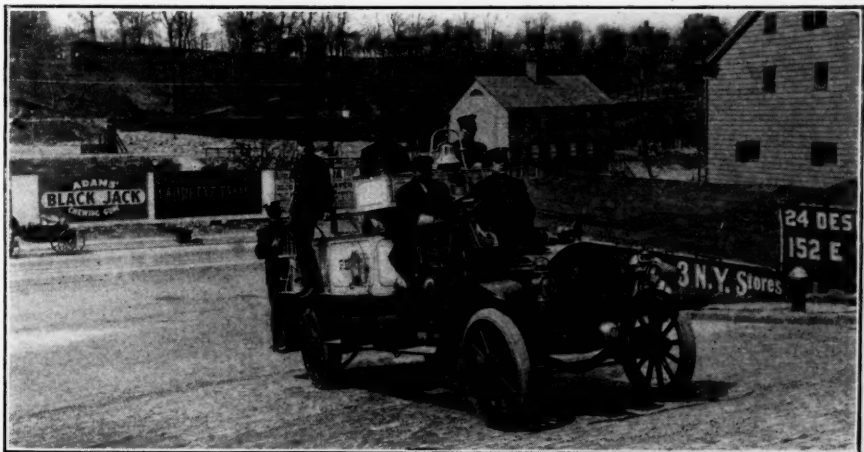
However, at Rochester the Fuch's engine broke the record for motor piston pumping engines.

Officials of City Test Combination Chemical.

San Jose, Cal.—A trial trip in the big Pope-Hartford "50" combination chemical and hose wagon, recently purchased by the city, was taken when the big red car carrying the Mayor, members of the council and the fire and police board, made a run to Alum Rock Park. Those in the party were: Mayor Thomas Monahan, Councilman W. G. Mathewson, Commissioners William McCarthy, Victor Challen, A. G. Col, J. W. Williams and J. F. Mecklem and George Osen, of the firm of Osen-McFarland. About April 15 the car will be put into service at the new house on Jackson and Second streets.

Negotiates Steep Grades Without Difficulty.

New York, N. Y.—The New York Fire Department has purchased during the last ten months, 35 Mack combination chemical and hose wagons. These chemical machines bid fair to be adopted as the standard equipment in the New York fire department. Some of the tests which these machines had to withstand in hill climbing were quite severe, and an illustration is given of a hill-climbing test of the Mack combination chemical and hose wagon. The picture shows the machine commencing the ascent of Duffy's Hill, New York City, the average grade being about 12 per cent., steepest 25 per cent.



MAC K MOTOR CHEMICAL ASCENDING DUFFY'S HILL.

Name New Engine After Commissioner.

Dallas, Tex.—The new combination engine hook and ladder automobile truck has arrived from the factory of the LaFrance company, at Elmira, and will be placed either at the No. 6 or at the Forest avenue station for the present. On either side of the car in nickel-plated lettering appears the official name of the truck, "R. R. Nelms." The title is in honor of Commissioner Nelms, who was kept in ignorance of the name placed upon the engine until he saw the apparatus in front of City Hall.

Annual Report of Board of Fire Commissioners.

Hartford, Conn.—The annual report of the fire commissioners has been submitted to the court of common council. The document covered 28 typewritten pages, and dealt not only with the needs of the department and its work during the past twelve months, but with a plan for mutual fire protection, affecting Hartford and the surrounding cities and towns as well. The report in part follows: A table showing what equipment was asked for, both to meet the ordinary needs of the department and to provide for complete motorization, and what equipment was allowed, follows: Ordinary Needs—Two combination motor pumps and hose wagons, two tractors, one new truck, three vehicles, for inspector of wires, fire marshal and master mechanic. Motorization—Power attachments for nine regular steamers and one spare, seven combination hose and chemicals, one tractor, two new trucks, four vehicles for fire alarm and general use. Allowed—One combination motor pump and hose wagon, one tractor. The superiority of motor apparatus over horse-drawn apparatus of the same character has been increasingly demonstrated with every piece of new motor equipment added during the year. With a motor squad car answering every box call and a good many still alarms and with five combination chemical and hose autos also in service there have been but three occasions when any of these cars had to stop on the road when on the way to a fire. Squad "A" answered every call without a hitch. The three cases were where one machine skidded against a curb and smashed a wheel, one was stalled by engine trouble and one was delayed only a short time by a flooding carburetor.

Kelly Motor Trucks Employed in Dayton Relief Work.

Dayton, O.—The motor truck is playing a leading part in the rehabilitation of the flood-stricken city of Dayton. Several hundred horses were drowned in the business district of the city when the terrible flood broke on Tuesday morning, March 25. When the water receded seventeen dead horses were found in one city block, and there were scores of blocks under water. There were comparatively few horses available. Only one railroad was in service into Dayton, and that was in a precarious condition. Supplies were needed from other cities. There was only one sure method of conveying and distributing the supplies, and that was—the motor truck. A call was sent for help. One of the first responses came from Springfield, twenty-two miles

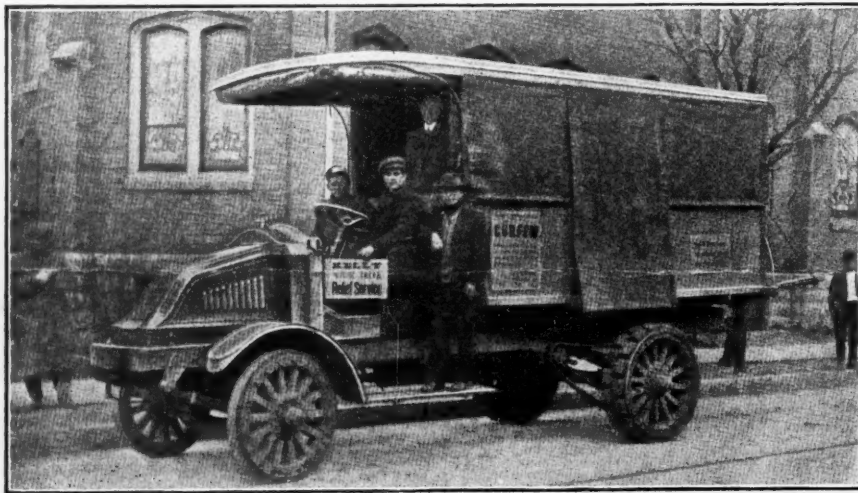
away. A trainload of food and clothing was sent on the Pennsylvania Railroad by the only train available. The next move was the organization of a fleet of trucks to carry more supplies. Six trucks of the Kelly Springfield Motor Truck Co., of Springfield, were loaded to capacity with food and clothing. The best road open was via Xenia, making the distance about thirty-three miles. This road was in a terrible condition, as in many places the mud was hub deep. The road made no difference to the big trucks. They arrived in Dayton a little more than three hours after they left Springfield, and received a royal welcome. The usefulness of these trucks was not in any way ended when they landed their loads in Dayton. There was any number of tasks before them. The principal one was the distribution of supplies from the National Cash Register Company to the relief stations in various parts of the city. The trucks were of infinite value in cleaning up the debris.

Firemen Test Benefit of New Self-Starter.

Syracuse, N. Y.—That the self-starter is more than a convenience and "labor saver" was shown recently by a remarkable test of the Chalmers compressed air starter by firemen of Syracuse, N. Y. The test was made under ordinary working conditions and demonstrated conclusively the value and effectiveness of the device. Four firemen were stationed at various points in the fire house. A bell was sounded and the firemen, with Captain Adam Group, who took the place at the wheel, sprang into the department's Chalmers "Thirty-Six" which stood in the center of the floor. In less time than it takes to tell the car was started, out of the station and speeding up the street. A city representative caught the time with a stop watch at 4 2-5 seconds. "The use of motor driven fire apparatus in the larger cities has had a wonderful effect in reducing fire loss," said Captain Group after the test, "but with all the speed that has been accomplished there is yet opportunity for great improvement through the adoption of efficient self-starters. A self-starter that cannot be depended upon is, of course, worse than none at all. The compressed air starter has proved absolutely dependable. When a fire is commencing to gain headway, every second that we save counts heavily. A short delay may mean a loss of life or the destruction of valuable property. But when we can get in the machine and out on the street in 4 2-5 seconds as we do with this car, a fire has small chance to get much of a start on us."

Fire Motor Sirens.

Topeka, Kan.—Screeching, ear-splitting long distance sirens will herald the approach of motor fire apparatus on the streets of Topeka. Fearing that accident might occur on account of the speed of the silent fire department motors, Chief Wilfarth has ordered the sirens for use in this city. "The motor apparatus moves three times as fast as the horse-drawn vehicles," explained the fire marshal. "Persons on the streets have become accustomed to gongs, bells and other warning noises—they do not hear the swiftly moving motors of the fire department. As a protection to drivers and pedestrians—especially persons driving in covered delivery wagons and automobiles—we have decided to use these sirens on the motors. The clatter of the ladders and the horses' hoofs of the horse-drawn trucks attracts attention on the streets, and we have little trouble with traffic. Although we have had no accidents with the motors, we have found it necessary to dodge in and out among vehicles and have had narrow escapes. At one time it was necessary to swing up on the platform of the Union Pacific depot to dodge a train on account of the neglect of the crossing watchman. The sirens can be heard for blocks and will not resemble any other sound of the streets. It is used successfully in other cities, and I believe it will be a success in Topeka."



A THREE-TON KELLY TRUCK DISTRIBUTING SUPPLIES IN DAYTON.

GOVERNMENT AND FINANCE

Cities in Jersey Vote on Commission Form.

Jersey City, N. J.—Commission government was adopted in Jersey City.

Bayonne, N. J.—Commission government was defeated in Bayonne by a majority of 295 votes. The result was:

For the adoption..... 2,931

Against the adoption..... 3,226

Hoboken, N. J.—In Hoboken commission government was defeated by 403 votes. There were 2,988 votes in favor of the adoption and 3,391 against.

Union Hill, N. J.—Commission government was defeated at the polls.

Charter Revision Carries in Bay City.

Bay City, Mich.—The charter revision question providing for a commission form of government was carried in Bay City by a vote of 1,270 for to 428 against, with one precinct missing.

Commission Government Rejected.

Tampa, Fla.—By a vote of 1,528 to 1,240 the citizens rejected the commission form of government charter prepared by the Commission Government League of Tampa and submitted to them under the auspices of the white municipal party.

May Try Commission Government.

Bristol, Tenn.—Bristol is to vote early in May as to whether it will abolish the aldermanic plan of government and pass to the commission form. The friends of the proposition to make a change have announced as their candidates for office: J. H. Faucett, a local wholesale shoe man, for mayor, and Samuel G. Keller, Jr., and R. L. Blevins for commissioners. In accordance with the changes in the charter the Mayor becomes a member of the commission, and the commissioners are to receive \$1,200 per annum. But the citizens will first vote on whether or not they desire to change from the present form of government.

Five Women Hold City Offices.

Kansas City, Kan.—With the appointment of four women to city offices in Kansas City, five important positions in the government of that municipality are held by women. Miss Laura A. Jost was appointed city treasurer; Mrs. Merle Addison Cutler and Miss Esther Bower, deputy treasurers, and Miss Beulah Reitz, city clerk. Dr. Jessie Newkirk was elected to the school board.

STREET CLEANING AND REFUSE DISPOSAL

Clean-Up Day at Antlers.

Antlers, Okla.—Mayor Cockran recently issued a clean-up proclamation for the city, designating Saturday, April 19. The city forces, Progressive Club and Ladies' Civic League combined and a program was worked out by which the best results would be attained. It was planned that the boys of the city were to do the general gathering of the different kinds of rubbish in all parts of the city, invading all premises where trash was to be found and place same convenient for the city wagons to remove to the scavenger grounds. A committee was appointed by the Progressive Club to solicit funds for rewarding the boys for their accumulations of trash.

Strike Ties Up Garbage Plant.

Brooklyn, N. Y.—The Street Cleaning Department has a problem to solve in the removal of the city's garbage, owing to a strike which has tied up the big disposal plant of the New York Sanitary Utilization Company on Barren Island. However, Commissioner Edwards has expressed the opinion that the inconvenience will be only temporary. If necessary all the garbage can be taken out to sea, beyond the three-mile limit, and dumped, at no extra expense to the city, as the cost of this work will be charged up against

the Utilization Company, which has a contract to dispose of all the garbage turned over to it. In the meantime the garbage will be loaded in scows and towed out to Barren Island, where the scows will be anchored and the refuse thoroughly disinfected so as to avoid all possibility of offensive odors. The trouble on the island is due to the fact that the workers in the disposal plant wanted an increase in wages. The company had already agreed to one increase, but when the men demanded an additional one, it balked. F. L. Cranford, superintendent of the company, expressed the belief that a compromise would be effected between the men and the company and that everything would soon be working smoothly again. If necessary, however, other laborers will be brought over to the plant to take the place of the strikers. There are about 150 to 200 men employed at the plant, and the strike affects 150 of them. The Barren Island plant handles garbage and refuse from the boroughs of Brooklyn, Manhattan and the Bronx—about 1,000 loads a day. The New York Sanitary Utilization Company is under contract and has been for over fifteen years, for the removal of this garbage. The refuse is boiled and grease extracted. This oil is exported, mostly to foreign soap manufacturers. The residuum is utilized as a fertilizer.

Will Provide Rubbish Cans.

Ogden, Utah.—Ogden city streets are to be graced with new rubbish cans similar to those used in the large eastern cities. For the purpose of making the cans the commissioners have adopted the recommendation of Supt. J. C. Nye of the street department to employ a tinner and purchase the material.

Creed of the City Betterment League.

Jersey City, N. J.—The City Betterment Interests League are circulating a card regarding the clean-up period, held from April 2 to April 28. The card says:

I believe in a concerted and determined effort to clean up Jersey City, every nook and corner,
I believe in setting a good example,
therefore,
I promise to take the initiative for a City Clean, in and about my home block, section or school, wherever I am, wherever I go;
I will always be on the look out, and on the look into, and view byways, streets, sidewalks, alleys, dark spots, trolley cars, unusual places, all parts, everywhere, and
I will observe uncleanly conditions generally, and make an effort myself to put things right, influence the offender to remedy the evil and remove the cause, and
If it is impossible for me to get the right result,
I will appeal to Inspector, Room 6, City Hall, for official assistance.

MISCELLANEOUS

For Municipal Homes.

Edmonton, Alta.—British capitalists are ready to supply some of the funds necessary if the city of Edmonton desires to go into municipal houses, says Sydney V. Kendall, of 45 Bedford Row, London, England, in a letter to Mayor William Short and the council. The plan outlined by Mr. Kendall is to erect a large number of artistically arranged dwelling houses, to be rented to bona fide residents at low rates. Mayor Shore has referred the letter to the board of commissioners. The municipality already owns and operates the street railway lines, telephone, electric light and water plants, and will install a paving plant of 100,000 yards capacity this year. The rate payers recently sanctioned a debenture issue of \$110,000 for a central public market.

Ground Broken for San Francisco City Hall.

San Francisco, Cal.—Ground was broken Sunday afternoon, April 6, in the Civic Center for San Francisco's new City Hall, while 5,000 San Franciscans, who had assembled at Van Ness avenue and Fulton street to take part in the exercises, rent the air with a mighty cheer as Mayor James Rolph, Jr., doffed his coat and with a silver spade began the excavation for the new \$3,500,000 municipal home. Grouped around the chief executive, also coatless, were the eighteen members of the Board of Supervisors, each supplied with a long-handled shovel, not silver, but of the common or garden variety, and no sooner had the first spadeful of earth been turned by the Mayor than these

members of his cabinet attacked old mother earth with a will and in record time filled to overflowing a waiting truck. Joy, pride and satisfaction were in the air. From one side of the cleared space the municipal band burst into the strains of "Everybody's Doin' It" as the Supervisors bent to their elected task. A chorus of 500 school children, occupying a stand near the arena, took up the refrain, and dirt literally flew. Former Mayor Edward Robeson Taylor joined the toiling officials and added his mite to the rapidly growing pile in the waiting cart, and so infectious was the general spirit of jubilation, and so cordial the invitation of the music, that Supervisors Murdock and McLeran laid aside their shovels and convulsed the crowd with a brief exhibition of the Texas Tommy. John Bakewell, Jr., whose architectural firm was successful in the competition of 73 architects from all parts of the state for the honor of drawing the plans for the new City Hall, thanked the administration for the honor reposed upon the firm in being enabled to plan a monumental building that will be one of the most famous in the country. He also stated with pride that the dome of the completed edifice will tower fourteen feet higher than the dome of the Capitol at Washington, and that in its 4,000 feet of public corridors the entire population of the city could crowd its way.

Riverside to Plant Ornamental Trees.

Riverside, Cal.—Directors of the Chamber of Commerce will recommend to the Supervisors the planting of ornamental trees on all macadam highways completed in the county. It is suggested that live oaks, sycamores, and other native varieties be given the preference. The first planting will be made on the West Riverside road, from Riverside to Los Angeles.

Work Starts on New Park.

Socorro, N. Mex.—Grading has begun on the new court house park. Early in the year the buildings were removed, and now that spring is here the work will be pushed to completion. This park will extend from the court house to the plaza and give an unobstructed and full view of the former. The new city reservoir is now about completed, and no storage of water is expected this summer. The tunnel which taps the water supply is being pushed further into the mountain in the hope of striking a greater flow.

Flood Does Serious Damage to Matter Park.

Marion, Ind.—Twenty thousand dollars, much labor and at least a year's time will be required before Marion will have a park as nice as it did before the flood. The boulevard drive must be rebuilt from the Highland avenue bridge to the park; the traction company must rebuild its line north of the Highland avenue bridge; tons of white sand and mud must be removed from the park grounds; bridges are to be rebuilt; new walks and drive-ways constructed; new fences erected; lawns worked over; buildings constructed, and the river bank improved, in addition to many other things before the park will present an appearance anything like it did before the flood. It will be weeks before through service between the public square and park is given. No cars are permitted to run across the Washington street bridge over the Mississinewa river. None will cross it until the north pier is repaired. The entire roadbed is washed out practically all the way from the Highland avenue bridge to the park. It will cost thousands of dollars to rebuild this. Tons of rock larger than a hen's egg have been washed from the roadbed and scattered along the sides of the road. Fences are down all along the drive. Trees along the edge of the water are without much of their bark, drift having rubbed it off. The lower limbs of large

trees and the tops of smaller ones support a tangled mass of drift. Tons of white sand are to be seen along the road and in various parts of the park grounds. Nearly all the fish in the lake escaped.

School Children to Use Vacant Lots.

Ogden, Utah.—The "City Beautiful" League, through its various committees, has assurance that more than 2,500 school children will take part in using vacant lots on which to plant flowers and gardens, and that \$150 has been raised for prizes for the best garden specialties. Mrs. R. B. Porter has been made chairman of the committees appointed by the different women's clubs of the city. Prof. Howard Schweitzer, Director of Agriculture in the Ogden High School, will be retained throughout the summer to direct the work of the students. Professor Schweitzer and O. J. Stilwell, secretary of the Ogden Publicity Bureau, have made an inspection of many vacant lots and given orders for them to be plowed. Seeds will be purchased, and work will be begun at once.

Mayor Orders Removal of Cloth Signs.

New Orleans, La.—Instructions have been sent to Superintendent of Police James Reynolds by Mayor Behrman to notify all managers of places of amusement in the city that in the future the cloth signs which they have been in the habit of displaying across the streets and from buildings for the purpose of advertising shows will not be permitted. The mayor stated that he is having the notice served now because the season is just closing and the managers can advise the advance agents of those coming here for next season of the new order of things before any contracts are made with them. "These cloth signs are an eyesore," said the mayor, "and they become dirty, wet and torn after every rain, and anything but ornamental to a city, so I have concluded that the use of them shall be prohibited."

Wichita Falls Playground Purchase.

Wichita Falls, Tex.—For a consideration of \$10,000 cash, the School Board has purchased half a block of ground one block from the High School building for a public playground. Improvements will be undertaken at once.

Convert Trash-Covered Lot into Beauty Spot.

Dallas, Tex.—Great interest is now being manifested generally by the school children of Dallas in the contest being waged by the Shriners' civic improvement committee to make Dallas more attractive. A vacant lot across the street from the William B. Travis public school on McKinney avenue is herewith illustrated, showing the children preparing to transform this lot into a beauty spot. Previous to their taking possession the lot was covered with weeds, trash and tin cans.



Courtesy Dallas Morning News.

SCHOOL CHILDREN PREPARING VACANT LOT FOR FLOWER BEDS.

LEGAL NEWS

A Summary and Notes of Recent Decisions— Rulings of Interest to Municipalities

Injuries—Icy Board Walk.

Hakenson v. City of Neillsville et al.—Evidence, in an action against a city for injuries by falling on a defective sidewalk, held to sustain a finding that the sidewalk was out of repair at the time from a downward incline of the boards from the outer to the inner edge of the sidewalk and because of a ridge of ice and snow thereon.—Supreme Court of Wisconsin, 140 N. W. R., 281.

Freight Cars in City Streets—Contract Obligations.

Southern Pacific Company, Appt., v. City of Portland.—A municipal ordinance prohibiting the hauling of freight cars on railway tracks in a city street is not a valid exercise of the right of regulation reserved in the ordinance designating, conformably to Or. Code, the street on which the railway tracks could be located, since this would defeat the state franchise and impair the contract under which the tracks were located, and on the faith of which terminals were constructed.—United States Supreme Court, 33 S. C. R. 308.

Establishing Building Lines—Police Power.

J. E. Eubank, Plff. in Err., v. City of Richmond.—An unconstitutional infringement of the guaranties of U. S. Const., 14th Amend., which cannot be upheld as an exercise of police power, results from a municipal ordinance passed under the authority of Va. Laws 1908, which requires the committee on streets, upon request of the owners of two thirds of the abutting property, to establish a building line on the side of the square on which such property abuts, not less than 5 nor more than 30 feet from the street line.—United States Supreme Court, 33 S. C. R., 76.

Streets—Automobiles—Regulations.

City of Chicago v. Kluever.—Laws 1911 provides that no owner of a motor vehicle, except trucks and motor-driven commercial vehicles or motor bicycles, who shall have obtained a certificate from the Secretary of State, shall be required to pay any tax in excess of certain sums therein named, or obtain any other license, or permit to use or operate the same, nor be limited as to speed on any public street, except as provided in the act. Held, that by such section the General Assembly intended to prevent city authorities from limiting the speed of automobiles and motor-driven vehicles to a less rate than 10 miles an hour, with the exception of motor trucks, etc., though the streets and crossings are crowded.—Supreme Court of Illinois, 100 N. E. R., 917.

Toll Roads—Surrender to County.

C. Roush & Co. v. Vanceburg, S. L., T. & M. Turnpike Road Company.—The stockholders of a turnpike road company surrendered a part of the road to the fiscal court of the county, but certain of the stockholders objected to surrendering another part of the road. The fiscal court then certified the facts to the county court, which took steps to condemn the road. The objecting stockholders then dropped their fight against the acquisition of the road by the county, and with their acquiescence the county took possession and thereafter held and maintained it as a free county road. Held, that the stockholders were estopped to deny that they had surrendered the road to the county within Ky. St., authorizing such a surrender by the owners of the stock of turnpike roads.—Court of Appeals of Kentucky, 152 S. W. R., 768.

Highways—Action for Injuries.

Board of Com'rs of Howard County v. Pindell.—In an action against a county for injuries to plaintiff's person, horse, and wagon from a defective highway, the evidence was conflicting on all material questions of fact, and defendant requested instructions that if the hole in the road, if any, in which plaintiff's horse stepped before he fell, was caused by

heavy rains and usual thawing, plaintiff could not recover, unless defendant had sufficient time to have had notice of such defect by the exercise of ordinary diligence, so as to have repaired it before the accident, and that, if plaintiff's horse stepped into a hole which could not have been seen by a traveler along the road, defendant had no notice of it, and could not have learned of it by the exercise of due diligence, and was not liable. Held, that refusal to so charge was erroneous, in that it took defendant's theory of the case from the jury.—Court of Appeals of Maryland, 85 A. R., 1041.

Vacating a Highway—Injunction.

City of Gary v. Much.—That the plaintiff in an action to enjoin municipal authorities from vacating a highway owned no property alongside the highway did not deprive him of the right to maintain the suit where his complaint showed that the closing of the highway would cause him special and peculiar damage by depriving him of access to his home.—Supreme Court of Indiana, 101 N. E. R., 4.

Sewers—Overflowing Lands.

City of Chickasha v. Looney.—It is an actionable wrong for a municipal corporation to negligently construct or maintain a sewer, whereby surface waters are diverted, and by artificial means collected in a body and discharged upon growing crops of a private individual, to his detriment.—Supreme Court of Oklahoma, 128 P. R., 136.

Assessment of Railroad Right of Way.

City of Kankakee v. Illinois Cent. R. R. Co.—Under Local Improvement Act, providing that in any special assessment the property of railroad companies may be described in any manner sufficient to reasonably identify the property intended to be assessed, the description may include all the right of way in the city, though the improvement would naturally benefit only a part; it being sufficient if the benefits assessed do not exceed the benefits of the whole portion so assessed.—Supreme Court of Illinois, 100 N. E. R., 996.

Street Improvement Ordinance—Reasonableness.

City of Belleville v. Miller et al.—Courts cannot interfere with the action of the city council, and declare an ordinance for a street improvement void, as unreasonable, on the ground that the street already had a fairly good pavement, unless the evidence clearly shows that the ordinance was arbitrary, unjust and oppressive.—Supreme Court of Illinois, 100 N. E. R., 946.

Highways—Established by User.

Village of Wellsville v. Hallock.—A road through defendant's premises had been used since 1866 by all wishing to do so, and soon afterwards it was worked by the pathmaster of the road district, and since about 1886 was used by the public as a highway, and a wooden bridge was built over a creek to accommodate public travel, with the consent of the owner and without interference until 1895, when he fenced the road and posted notices thereon forbidding its use as a public highway. Held, under Highway Law, providing that land used by the public as a highway for 20 years or more shall become a public highway, that by public user for the statutory period the road had become a public highway.—New York Supreme Court, 139 N. Y. S., 961.

Town Line Bridge—Contribution to Expend.

Town of Seif v. Town of Eaton.—Where, by virtue of St. 1911, an agreement is made by the majority of the supervisors of two towns that the expense of the construction of a bridge on a town line highway between them shall be borne by one of them, the other is estopped to claim after both towns for years have acted on the faith of the agreement that irregularities in proceedings leading up to the agreement invalidated the agreement. One town which voluntarily petitions a county for aid in building a new bridge to replace an old one on a town line highway, and bears part of the expense itself, cannot sue the adjoining town for contribution, where there was no demand on it to share the expense, or refusal on its part to so share.—Supreme Court of Wisconsin, 140 N. W. R., 319.

NEWS OF THE SOCIETIES

Calendar of Meetings.

April 28-May 3.
JERSEY CITY MUNICIPAL EXHIBIT.—Fourth Regiment Armory, Jersey City, N. J.—Address Municipal Exhibit, Room 6, City Hall, Jersey City.

May 5-7.
NATIONAL CONFERENCE ON CITY PLANNING.—Annual Meeting, Chicago, Ill. Flavel Shurtleff, Secretary, 16 Congress Stret, Boston, Mass.

May 6-8.
GAS, ELECTRIC AND STREET RAILWAY ASSOCIATION OF OKLAHOMA.—Annual Convention, Oklahoma City, Okla. H. V. Bozell, Secretary, Norman, Okla.

May 6-10.
PLAYGROUND AND RECREATION ASSOCIATION OF AMERICA.—Annual Meeting, Richmond, Va.—H. S. Braucher, Secretary, 1 Madison Ave., New York City.

May 12-14.
SOUTHWESTERN WATER WORKS ASSOCIATION.—Second Annual Convention, Fort Worth, Tex. E. L. Fulkerson, Secretary.

May 20-23.
AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—Spring Meeting, Baltimore, Md. C. W. Rice, Secretary, 29 West 39th street, New York City.

June 5-7.
CONFERENCE OF MAYORS OF NEW YORK STATE.—Meeting, Binghamton, N. Y. William P. Capes, Secretary, 105 East 22d Street, New York City.

June 23-28.
INTERNATIONAL ROADS CONGRESS.—Third Congress, London, England. W. Rees, Jeffreys Secretary, Queen Anne's Chambers, Broadway, Westminster, London, S. W.

June 23-27.
AMERICAN WATER WORKS ASSOCIATION. Thirty-third Annual Meeting, Minneapolis, Minn. John M. Diven, Secretary, 47 State street, Troy, N. Y.

June 24-26.
UNION OF TEXAS CHIEFS OF POLICE AND CITY MARSHALLS.—Annual Convention Galveston, Tex.—Hollis Baum, Chief of Police, Waco, President.

July 22-25.
LEAGUE OF WISCONSIN MUNICIPALITIES. Annual Convention, Neenah, Wis.

August 25-30.
FOURTH INTERNATIONAL CONGRESS ON SCHOOL HYGIENE, Buffalo, N. Y. Dr. Thomas A. Storry, Secretary General, College of the City of New York.

August 26-28.
CENTRAL STATES WATER WORKS ASSOCIATION.—Seventeenth Annual Meeting, Cedar Point, O.—R. P. Bricker, Secretary, Shelby, O.

September 1-6.
INTERNATIONAL ASSOCIATION OF FIRE ENGINEERS. Forty-first Annual Convention, Madison Square Garden, New York City. James McFall, Secretary, Roanoke, Va.

October 7-10.
AMERICAN SOCIETY OF MUNICIPAL IMPROVEMENTS.—Twentieth Annual Meeting, Wilmington, Del.—A. Prescott Folwell, Secretary, 50 Union Square, New York City.

American Water Works Association.

The 33d annual convention will be held at West Hotel, Minneapolis, Minn., June 23-27, 1913.

The convention will be opened with a reception at West Hotel, Monday evening, June 23, and the business sessions will commence promptly at 10 a. m. Tuesday, June 24. Tuesday morning, afternoon and evening, and Wednesday morning will be devoted to the business of the association, and reading and discussion of papers. There will be an excursion to some point of interest Wednesday afternoon and evening. Reading and discussion of papers will occupy all day Thursday, including an evening session, and Friday morning. There will be an ex-

cursion and entertainment Friday afternoon.

The following papers have been pledged:

The Deisel Engine for Water Works by Edward S. Cole.

Water Works Special Franchises, by Henry DeForest Baldwin.

Reforestation and General Care of Water Sheds, by Ermon M. Peck.

The Bacterial Count on Gelatin and Agar Media and Its Value in Controlling the Operation of Water Purification Plants, by James M. Caird.

The Tuscaloosa, Alabama, Water Works, by Prof. Edgar B. Kay.

A paper on Filtration, by George W. Fuller.

Charges for Public Water Service to Private Fire Protection Systems, by W. E. Miller.

A Reasonable Basis for the Determination of Charges for Private Fire Protection, by Leonard Metcalf.

Metering Private Fire Services at Kenosha, Wisconsin, by August Baltzer.

How a Private Fire Service Polluted a Public Water Supply and Some of the Consequences, by Robert J. Thomas.

Modern Filter Practice, by Nicholas S. Hill, Jr.

Gravity Water Supply at the City of Manila, Philippine Islands, by H. E. Keeler.

Power for Pumping Derived from Refuse, by E. H. Foster.

Pumping Engines, by L. E. Strothman.

Ground Water Supplies, by Charles B. Burdick.

Rates and Rate Making, by Halford Ericson.

On Tuesday evening and Thursday evening illustrated lectures will be delivered by Edward Wegman and Dr. William P. Mason.

A few other papers will be added to the above program and there will be an experience meeting and question box. All papers received in time will be printed before the convention and copies sent to the members of the association, to give them opportunity to prepare for the discussion of the papers.

The headquarters, exhibits and office of the Secretary will be at West Hotel, where the business sessions will also be held.

The Merchants' Association of New York.

The Association has moved into its new headquarters in the Woolworth Building, 233 Broadway, its old quarters at 54-60 Lafayette street, having been outgrown. The new headquarters occupy the greater part of the ninth floor of the Woolworth Building, and they afford ample accommodations for the many activities of the association.

Organized in the heart of the whole-

sale dry goods district in 1898, concurrently with the creation of Greater New York by the annexation of Brooklyn, Queens and Richmond, the association has grown until it now has upward of 3,300 members. Among them are numbered not only leading merchants and manufacturers of the city, but also the representative firms, corporations, and individuals in practically every field of business and professional life in the five boroughs.

The new headquarters of The Merchants' Association are so situated as to be easily reached by the various transit routes, and are, therefore, convenient of access for members of the Association and for visiting merchants from other cities. They contain a large assembly-room for meetings of the members, a reference library, and separate rooms for the officers and directors, and for the Industrial, Traffic, Publicity, Membership, and Convention Bureaus which have recently been organized by the Association.

PERSONALS

The following municipal officers have been recently elected or appointed:

NEW YORK.

Elmsford—President, A. M. Tompkins.

Hastings—President, T. F. Reynolds. Irvington—President, M. S. Beltzhoover.

Marmaroneck—President, Dr. J. F. Hunter.

Mount Kisco—President, V. C. Banks.

North Pelham—President, Peter Cedar.

North Tarrytown—President, S. T. Horton.

Pelham—President, E. E. Huber.

Tarrytown—President, F. R. Pier-

son.

Pelham Manor—President, W. P. Brown.

Tuckahoe—President, Wm. Rudly.

Liverpool—President, Chas. Traister.

Marcellus—President, Frederick A. Thompson.

Manlius—President, Wm. Nightingale.

Tully—President, Herman R. Northrup.

Baldwinsville—President, Dr. Earl G. Heaton.

Fayetteville—President, Wilbur M. Jones.

Skaneateles—President, Charles P. DeWitt.

Camillus—President, Robert R. Osmond.

Elbridge—President, Reuben B. Sweet.

Fabius—President, James G. Barnard.

Whitesboro—President, T. H. Rahn.

LeRoy—President, Joseph Lapp.

Nyack—Village Clerk, Henry E. Smith; Street Commissioner, Frederick Bittig; Chief of Police, Thomas Curran; Member Board Water Commissioners, Dr. H. W. Boyd; Member Board Sewer Commissioners, Wm. B. Gates; Street Committee, Trustees

Daniel and Wyman; Fire Committee—Rottmann and Daniel; Light Committee—Wyman and Daniel; Police Committee—Garner and Rottmann.

Lyon Falls—President, E. F. Curtis (re-elected).

Highland Falls—President, John S. Likely.

MASSACHUSETTS.

Whitinsville—Moderator, B. L. M. Smith; Sewer Commissioner, Arthur F. Whitin; Selectmen for three years: John Gunn, John McEndy, Robert J. Sproat.

NEBRASKA.

Hastings—Mayor, Chas. Ingraham.

ARKANSAS.

Fort Smith—Mayor, Henry C. Read; Commissioners: H. Kupper, Jr., D. F. Singleton, Tom Hays, W. H. Bruce.

Argenta—Mayor, James P. Faucette.

Berryville—Mayor, A. J. Russell.

Sheridan—Mayor, V. A. Aschcroft.

Thornton—Mayor, W. R. Edmundson.

Waldron—Mayor, W. Y. Wise.

Harrisburg—Mayor, W. R. Singleton.

Foreman—Mayor, George N. Cannon.

Arkansas City—Mayor, C. C. Hemingway, Sr.

Eudora—Mayor, W. J. Griffiths.

Magazine—Mayor, W. A. McNeil.

Wilmot—Mayor, J. R. Byrd.

Pangburn—Mayor, Arthur Henderson.

Carlisle—Mayor, C. S. Ayres.

Plainview—Mayor, G. E. Floyd.

Dermott—Mayor, J. W. Rayborn.

Bigelow—Mayor, Dr. W. H. Vermillion.

Hot Springs—Mayor, Dr. G. A. McClendon.

Leola—Mayor, R. E. Jett.

Gillett—Mayor, C. R. Doman.

Womble—Mayor, W. C. Green.

Pocahontas—Mayor, J. O. Sallee.

Biggers—Mayor D. Shores.

Reyno—Mayor, Isaac Ebbert.

Maynard—Mayor, John Tolbert.

KANSAS.

Columbus—Mayor, E. B. Beniteside.

Sabetha—Mayor, W. R. Guild; Commissioners: J. C. Lichty, F. A. Derby.

Herington—Mayor, Dr. Wm. N. Koons.

Galena—Mayor, P. M. Clark.

Abilene—Commissioner of Finance, Christian Johnitz.

Concordia—Mayor, W. T. Short.

Independence—Mayor, C. H. Kerr.

Emporia—Commissioner of Streets, D. A. Dryer.

Winfield—Mayor, H. A. McGregor.

Seneca—Mayor, W. G. Rucker (re-elected).

Larned—Mayor, E. S. Linds.

Arkansas City—Mayor, J. W. Reed (re-elected).

Junction City—Mayor, W. A. Thompson.

Harper—Mayor, C. W. G. Muir.

Weir City—Mayor, Joseph Hanley.

Ottawa—Mayor, A. J. Slater; Commissioners, Rev. H. W. Caffee, C. F. Wilson.

Newton—Commissioner, O. W. Roff.

Osawatimie—Mayor, C. H. Barr (re-elected).

Horton—Mayor, J. E. Bailey.

Tyro—Mayor, Mrs. H. C. Defenbaugh.

Salina—Mayor, V. E. Niquette.

Eureka—Commissioner of Finance: John Redman.

Osborne—Mayor, W. A. Layton.

Beloit—Mayor, John Stack.

Osage City—Mayor, Dr. J. J. Currencey.

Garden City—Mayor, D. R. Minkie.

Clay City—Mayor, M. W. Smith.

Goodland—Mayor, George Kelly.

Leavenworth, Mayor, E. W. Crancer (re-elected); Commissioners: Henry Dolde, Anton Swoboda, Dr. R. E. Nelson (re-elected).

Topeka—Mayor, R. L. Cofran; Commissioners: Finance, R. L. Bone; Water, F. L. Newland; Streets, W. D. Tandy (re-elected); Parks, W. L. Porter.

Kansas City—Mayor, G. W. Green.

Atchison—Mayor, Dr. C. C. Finney.

Wichita—Mayor, J. W. Babb.

MAINE.

Augusta—Mayor, Elmer E. Newbert.

Boothbay—Moderator, Byron Giles.

Bristol—Moderator, H. H. Chamberlain.

Chelsea—Selectmen: R. H. Burbank, J. H. Wellman, J. S. Tenney; Road Commissioners: W. S. Powers and E. M. Geyer.

Houlton—Selectmen: Nathaniel Tompkins, S. C. Webber, A. A. Stewart; Town Clerk, M. M. Clark (elected for the thirty-second time).

Kittery—Selectmen: F. E. Getchell, H. H. Cook, E. J. Burnham; Clerk, C. M. Prince; Road Commissioners: W. F. Fernald, Chas. L. Bedell, Franklin Haley.

Machiasport—Selectmen: G. F. Warren, Elmer Small, S. W. Pettigrew; Town Clerk, W. C. Hanson.

North Haven—Selectmen: H. B. Stone, J. N. Beveridge, H. Crockett; Clerk, J. O. Brown; Road Commissioner, H. O. Grant.

South Thomaston—Selectmen: L. H. Snow, E. F. Kalloch, J. LeRoy Allen, E. F. Harrington; Road Commissioner, W. J. Martin.

St. George—Selectmen: G. B. Alley, W. E. Brennan, C. E. Lane; Clerk, C. E. Wheeler; Road Commissioner, J. S. Smalley.

Vinalhaven—Selectmen: T. C. Creed, L. E. Williams, C. F. Noyes; Clerk, O. P. Lyons; Road Commissioner, D. G. Geary; Chief of Fire Department, E. S. Sprague.

York—Selectmen: J. B. Bragdon, H. H. Norton, H. S. Bragdon; Clerk, G. F. Plaisted; Road Commissioners: C. L. Grant, E. D. Nowell, W. H. Woodward.

Waldoboro—Selectmen: H. F. McIntyre, J. M. Richards, L. I. Mank; Clerk, P. E. Storer.

Winthrop—Selectmen: H. F. Tuttle, S. P. Grant, D. S. Clement; Road Commissioner, E. C. McLaughlin.

Thorndike—Selectmen: Jas. Cates, Howard Harmon, Chas. Ward; Clerk, O. J. Farwell, Jr.; Road Commissioner, J. M. Ward.

Stockton Springs—Selectmen: F. L.

Blanchard, E. E. Partridge, A. M. Ames; Clerk, W. F. Trunoy.

Charleston—Selectmen: H. R. Southgate, F. F. Bickmore, G. S. Walker; Clerk, J. F. Dougherty; Road Commissioner, H. S. Smith.

Greene—Selectmen: D. B. Wiley, C. L. Wendall, Cyrus Howe; Clerk, R. R. Coburn; Road Commissioner, W. M. Daly.

Wells—Clerk, W. J. Storer.

Winslow—Moderator, G. S. Paine; Selectmen: F. C. Drummond, J. S. Deane, H. L. Simpson; Road Commissioner, F. H. Ellis.

Limerick—Selectmen: A. L. Hays, J. S. Pierce, A. E. Haynes; Clerk, C. F. Philpot; Road Commissioner, J. W. Lord.

Presque Isle—Selectmen: N. P. Cook, J. C. Seeley, A. E. Wilson; Clerk, E. I. Waddell; Road Commissioner, C. H. Richardson.

Jefferson—Selectmen: H. A. Clark, W. H. Flagg, H. E. Dow; Clerk, C. W. Besse; Road Commissioners: F. A. Flagg, L. A. Hallowell, O. J. Bryant.

Skowhegan—Selectmen: R. F. Parker, Henry Demo, C. H. Tuttle; Clerk, C. M. Lambert; Road Commissioner, A. L. Ford.

Poland—Selectmen: N. B. Schackford, E. A. Libby, W. C. Frank; Clerk, C. C. Mitchell; Road Agent, F. O. Emery.

Waterboro—Selectmen: C. E. Chadbourne, H. B. Swett, Harry Smith; Clerk, I. H. Smith.

Rockland—Selectmen: G. A. Cody, W. J. Barry, A. M. Thompson; Water Commissioner, T. E. Binal; Highway Surveyor, Andrew Shannahan; Board of Health, Dr. C. Knight.

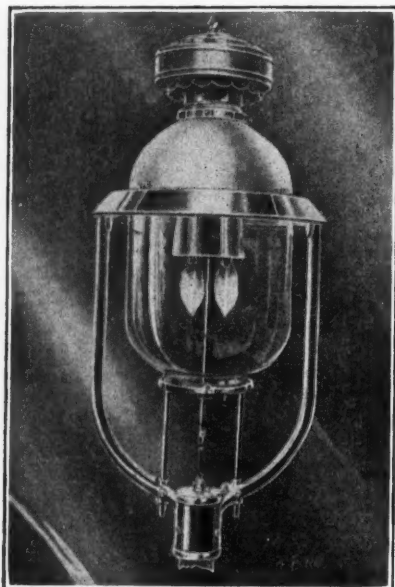
Bangor—Chief Engineer of Fire Department, W. S. Mason; City Electrician, R. N. Bicknell; Superintendent of Sewers, Wm. E. Given; Street Commissioner, Mayor F. O. Beal; Street Engineers: Alderman Matheson and Councilman Kelley. Joint Standing Committees—Streets and Highways: W. D. Matheson, Wm. H. Holman and Henry A. Kelley; Fire Department: Geo. Smith, James E. Canning, Benj. F. Tefft; Water Department: E. R. Hickson, Benj. F. Tefft, G. F. Given; Street Lights: A. A. Leadbetter, C. J. Bernstein, H. A. Kelley; Park Commission, W. C. Iverson, A. B. Wood.

Saco—City Clerk, G. E. Grant; President Council, R. A. Alexander; Chief Engineer, B. W. Merrill; Highway Commissioners: J. M. Deering, W. B. Boothby, J. H. Whitten, F. P. Boothby, S. Fletcher, G. W. Milliken, L. Boothby, E. E. Mills; City Electrician, Daniel Rounds; Park Commissioner, E. A. Dennett. Joint Standing Committees—Mayor M. A. Pillsbury, Alderman Merrow, Councilmen Albrecht and Mayo; Sewers and Drains: Mayor Pillsbury, Alderman Towle, Councilmen Sanborn and Seavey; Streets: Mayor Pillsbury, Alderman Towle Councilmen Norton and Milliken; Fire Department: Mayor Pillsbury, Alderman Clark, Councilmen Norton and Sanborn; Lighting Streets, Mayor Pillsbury, Alderman Berry, Councilmen Cabana and Alexander.

MUNICIPAL APPLIANCES

Coleman Boulevard Lamp.

The Coleman boulevard lamps, which have been in actual operation for six or seven years, are made by the Hydro-Carbon Company, 220 St. Francis avenue, Wichita, Kan. That they have been growing in favor is shown by the fact that the city of Des Moines, whose standards of civic attractiveness are high, recently purchased four hundred



LAMP HEAD.

of them. It is claimed that in brilliancy they outshine the electric arc; that bad weather does not hurt them; that they cost only from 50 cents to \$1.50 per month; and that they have the advantages of simplicity, durability and beauty. The cost of installation is so low that extensive bond issues as in the case of the installation of an electric lighting plant are avoided.

Several interesting details of this lamp are shown in the illustrations. Heavy solid construction is needed for long life in outdoor lamps. The hood or ventilator is solid copper; the dome, spun steel white enameled, baked at 2,000 degrees Fahrenheit; the frame, solid gray iron aluminum finished, and the entire inside works of finest quality rolled and sheet brass and seamless drawn tubing.

The lamp is operated by devices inside the post, the door giving access to them being only 30 inches above the ground. The filler cap, controlling valves and time cut-off are all conveniently arranged. The door is locked by an all brass Yale lock.

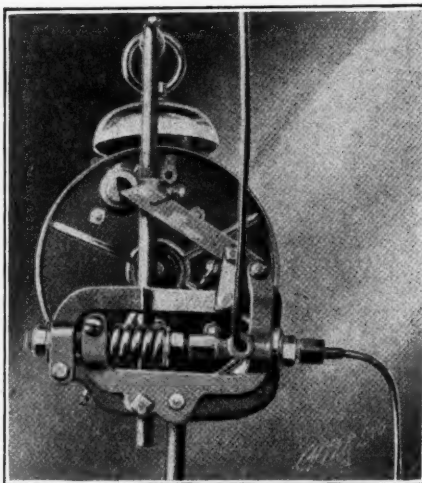
The automatic time cut-off is an important money saving device. By a simple arrangement of compound levers the valve stem is drawn open against the tension of a 200 pound coil spring, thus opening the valve permitting the fuel to flow through the valve. Observe that the free end of the lever rests on the sawed end of a revolving

pin which is slotted at the other end. Into this slot the alarm key is inserted. The revolving pin can be set like a trigger so that the least pressure of the key on the pin turns same releasing the lever which instantly permits the 200 pound pressure of the coil spring to securely close valve.

The height of the Coleman boulevard lamp is 13 feet above ground and 3 feet below ground. The base contains a five-gallon tank and gauge. The wire tube runs from the tank up inside the post to the lamp. The post above the base is heavy wrought iron pipe. An extra generator is furnished with each lamp, so that if there is any trouble with one the other is at hand ready for use. With one filling the lamp will burn about 60 hours.

INDUSTRIAL NEWS

Cast Iron Pipe.—Chicago. No awards of any importance have been made. The unusual scarcity of orders for large sizes has weakened the price for those grades. Quotations: 4-inch, \$30.50; 6 to 12-inch, \$28.50; 16-inch and up, \$27.50. Birmingham—No large orders have been placed. Manufacturers are



AUTOMATIC TIME CUT-OFF.

not expecting any considerable activity for some time, but they are going ahead with plant operation and stocks are accumulating. Fluctuations in the iron market are given as the cause of the holding back of contracts. Quotations: 4-inch, \$23.50; 6-inch and over, \$21.50. San Francisco — Municipal business is coming out in better shape. There is some corporation buying, though the outlook for investment by public service corporations is rather uncertain. Quotations: 4-inch, \$36.50; 6-inch, \$34.50. New York.—No new public lettings of importance are announced for this territory. Private buying is irregular, the volume being under that of the past month. Inquiries are being received from Eng-

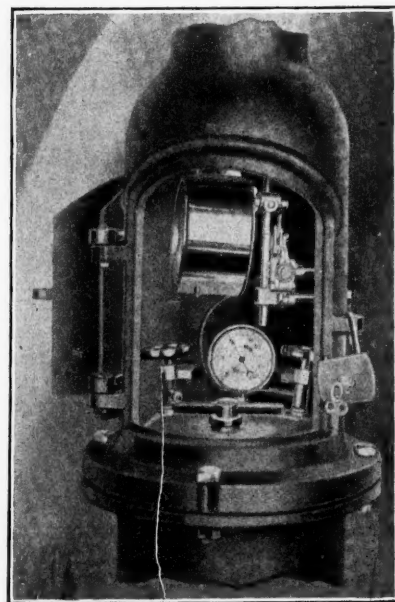
land, but differences in specifications is apt to prevent buying. Quotations: 6-inch, \$23.50 to \$25.

Lead.—Market is quiet, but shows an improvement in tone, especially in St. Louis. Quotations: New York, 4.35c.; St. Louis, 4.20c.

Steel Sheet Piling.—The Carnegie Steel Company recently made a remarkable record in getting out and delivering an emergency order for 500 tons of sheet piling for repairing the levees at New Orleans. The order was received on April 7 at noon. The rolling and cutting into 20 foot lengths and punching were finished April 9. The trainload of piling was received at New Orleans April 14, three days before delivery was expected.

Concrete Standpipes and Reservoirs.—Simpson Bros. Corporation, 166 Devonshire street, Boston, Mass., have published an attractive booklet illustrating a number of concrete towers and reservoirs, built and in some cases designed by them. The structures include a water tower located in Cambridge, Mass., a 2,000,000-gallon circular reservoir, Waltham, Mass.; tanks at Manchester, Mass., Lisbon Falls, Me., Rockland, Mass., Laconia, N. H., Lexington, Mass., Winchester Mass., and a 2,500,000-gallon reservoir at Brunswick, Me.

Iron and Steel Tubular Poles.—The Electric Railway Equipment Co., Cincinnati, O., announce that owing to increased business they have been compelled to secure larger quarters for their Eastern office located in New York City. Accordingly, on and after May 1st, the office will be located at 30 Church street, Hudson Terminal Building, New York City. The office as before will be in charge of J. G. Kipp, who reports that since the opening of the Eastern office results have been very gratifying and the company is in a much better position to handle export business.



CONTROLLING MECHANISM.

WEEKLY CONTRACT NEWS

ADVANCED INFORMATION
BIDS ASKED FOR

CONTRACTS AWARDED
ITEMIZED PRICES

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we cannot guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also correction of any errors discovered.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREETS AND ROADS				
O.	Cleveland	11 a.m., Apr.	26.. Brick, 1.33 miles in Euclid.	Co. Comrs.
O.	Cleveland	Apr.	26.. Improving roads	J. F. Goldenbogen, Co. Clk.
Wash.	Tacoma	11 a.m., Apr.	26.. Permanent highway No. 3 and concrete bridge.	J. O. Wadsworth, Co. Aud.
Minn.	Grand Marais	2 p.m., Apr.	26.. Road	C. Murphy, C. Clk.
N. Y.	Olean	Apr.	26.. Brick pavement, 3,400 yds.	H. E. Bunce, C. Engr.
O.	Tiffin	Noon, Apr.	27.. Vitrified brick	John Miller, Dir. P. S.
O.	Canton	10 a.m., Apr.	28.. Brick, 5.6 miles	J. H. McConnell, Co. Aud.
Ia.	Anamosa	Apr.	28.. Cement, Dolarway or asphaltic concrete, 7,000 yds.	L. J. Fisher, C. Clk.
Pa.	Ridgeway	Noon, Apr.	28.. Brick, 11,400 yds.	G. F. Greiner, Secy.
O.	Euclid	Noon, Apr.	28.. Brick, two streets	F. A. Pease Engr. Co.
Mich.	Mt. Pleasant	Apr.	28.. Pavement, 11,000 yds.	H. H. Hunter, C. Clk.
Mass.	Boston	Noon, Apr.	28.. Tar macadam roadways.	L. K. Rourke, Comr. P. Wks.
Minn.	Hastings	11 a.m., Apr.	28.. Gravel roads	J. F. Kelly, Co. Comr.
Minn.	Lakeville	11 a.m., Apr.	28.. Gravel roads	P. A. Hoffman, Co. Aud.
Conn.	Waterbury	4 p.m., Apr.	29.. Wood, granite, bitulithic, Roman roads.	R. A. Cairns, City Engr.
Ill.	Peoria	5 p.m., Apr.	29.. Curbing, &c., during 1913.	S. W. Eckley, Comr. P. Wks.
N. Y.	Niagara Falls	7.30 p.m., Apr.	29.. Pavements in sundry streets.	F. S. Parkhurst, Jr. City Eng.
N. J.	Ridgewood	8 p.m., Apr.	29.. Brick, 3,300 yds.	F. W. Simons, Vil. Engr.
N. Y.	Niagara Falls	Apr.	29.. Paving several streets	Bd. Pub. Works.
Ind.	Vincennes	Apr.	29.. Brick, 4,000 yds.	J. V. Hershey, C. Engr.
O.	Medina	10 a.m., Apr.	29.. Concrete, .65 miles in Wadsworth; water-bound macadam, .66 miles in Montville.	J. R. Marker, State Hwy Com.
O.	Youngstown	Noon, Apr.	29.. Paving streets and sidewalks.	W. H. M'Millin, Clk.
Fla.	Pensacola	7.30 a.m., Apr.	29.. Concrete sidewalk, curbing around jail.	Co. Comrs.
O.	Medina	11 a.m., Apr.	29.. Brick, .65 mile; cost, \$9,732.40 in Wadsworth Twp.	J. R. Marker, State Hwy Com.
Va.	Danville	Apr.	29.. Macadam, 6½ miles; soil road, 37½ miles.	City Engr.
Ia.	De Ridder	Apr.	29.. Sidewalks, 7 miles	Z. T. Heard, C. Attorney.
Ky.	Louisville	10.30 a.m., Apr.	29.. Reconstn. roads, furn. small tools, supplies, culvert pipe	J. R. Gaines, Co. Engr.
N. J.	Elizabeth	8 p.m., Apr.	30.. Waterbound macadam, 3,900 yds.	Edw. Mosher, Town Engr.
N. J.	Trenton	2.30 p.m., Apr.	30.. Vitrified block, two streets	Frank Thompson, C. Clk.
O.	Columbus	2 p.m., Apr.	30.. Brick, 2.51 miles; cost, \$34,537.77 in Ruggles Twp.; water-bound macadam, 2.21 miles; cost, \$13,174.40 in Sandusky Twp.	J. R. Marker, State Hwy Com.
N. Y.	Brooklyn	11 a.m., Apr.	30.. Asphalt and granite, number of streets	A. E. Steers, Boro. Pres.
O.	Columbus	2 p.m., Apr.	30.. Bit, surface concrete, 1.10 miles in Chester	J. R. Marker, State Hwy Com.
O.	Springfield	Apr.	30.. Macadam	C. E. Schaefer, Dir. P. S.
Ill.	Breese	8 p.m., Apr.	30.. Concrete sidewalks, 40,000 sq. ft., &c.	C. C. Eulberg, C. Clk.
Minn.	St. Paul	5 p.m., Apr.	30.. Furnishing wood blocks, clay pipe, brick, &c.	Oscar Clausen, Comr. P. W.
Ia.	Sheldon	May	1.. Concrete, brick and asphalt, 12,000 yds.	K. C. Gavnor, Engr.
N. J.	Elizabeth	8.30 p.m., May	1.. Brick, 2,820 yds.	W. F. Neafsey, St. Comr.
O.	Ashtabula	May	1.. Brick pavement, 24,000 yds.	L. A. Amsden, C. Engr.
Mich.	Saginaw	May	1.. Paving several streets; cost, \$110,000.	H. H. Emyer, C. Engr.
O.	Greenville	Noon, May	1.. Gravel road	L. Morgan, Co. Aud.
Ark.	Fayetteville	May	1.. Pavement, 20,000 yds.; cost, \$50,000.	E. A. Kingsley, Little Rock, Engr.
Ky.	Winchester	8 p.m., May	2.. Brick pavement	J. A. Hughes, Mayor.
Wis.	Delevan	10 a.m., May	2.. Brick pavement	W. H. Horton, Chmn. B. P. W.
Mich.	Muskegon	Noon, May	2.. Roads	John Barlow, Clk.
Minn.	International Falls	May	3.. Grading 3 miles road	J. B. Clark, Town Clk.
Ind.	Laporte	May	4.. Brick, asphalt, concrete or bitulithic, 4,000 yds.	E. C. Shoecraft, C. Engr.
Ind.	Laporte	May	5.. Asphaltic concrete resurfacing, 35,000 yds.	Wm. Krueger, C. Clk.
Ia.	New Iberia	4 p.m., May	5.. Concrete walk, 322,110 sq. ft. sidewalk & 71,572 ft. curb.	J. S. Power, Mayor.
Ind.	Hartford City	May	5.. Two roads	Jas. Cronin, Co. Aud.
Ind.	Jeffersonville	10 a.m., May	5.. Two highways	G. W. Stoner, Co. Aud.
N. J.	Plainfield	May	5.. Macadam, 28,000 yds.	J. T. MacMurrey, City Clk.
N. J.	Westfield	May	5.. Macadam, 8,400 yds.	A. W. Vars, Town Engr.
O.	Girard	Noon, May	5.. Paving sidewalks, crosswalks, &c.	J. E. Stotler, Vil. Clk.
Wis.	Ellsworth	8 p.m., May	5.. Cement sidewalks, &c.	C. B. Wood, Vil. Clk.
Minn.	Minneapolis	11 a.m., May	5.. Grading, graveling, &c.	A. P. Erickson, Co. Audr.
Ind.	Vincennes	2 p.m., May	6.. Three gravel roads	J. P. Scott, Co. Aud.
O.	Toledo	10 a.m., May	6.. Macadamizing highway	C. J. Sanzenbacher, Co. Aud.
S. C.	Charleston	8 p.m., May	6.. Standard pavement, any kind, 30,000 yds.	J. H. Dingle, C. Engr.
Ind.	Wabash	1 p.m., May	6.. Four highways in Noble township.	D. Showalter, Co. Aud.
Miss.	Calhoun City	May	6.. Concrete sidewalks, 1 mile.	P. D. Williams, Clk.
Fla.	Palatka	May	6.. Concrete sidewalks, 3 miles	S. C. Stallings, C. Engr.
Ind.	Shelbyville	10 a.m., May	7.. Gravel road, Union township.	F. W. Fagel, Co. Aud.
Ind.	Muncie	10 a.m., May	7.. Stone road	F. M. Williams, Co. Aud.
Pa.	Ashland	May	7.. Brick or Amiesite, 15,600 yds.	J. W. Ritz, Boro. Secy.
Ind.	Evansville	10 a.m., May	8.. Macadamizing highway	C. P. Beard, Co. Aud.
Minn.	Jackson	May	8.. Improving state road	P. D. McKellar, Co. Aud.
Fla.	Jacksonville	10 a.m., May	9.. Vitrified brick concrete, 2 roads.	Bd. of Duval Co. Comrs.
Ill.	Crete	May	10.. Hard roads, 10 miles	S. Rose, Town Clk.
Fla.	Pensacola	Noon, May	13.. Concrete pavement, 22,000 yds.	Geo. Rommel, C. Engr.
O.	Cleveland	11 a.m., May	14.. Taylor No. 2 Road improvement.	J. F. Goldenbogen, Co. Clk.
Okla.	Tulsa	May	15.. Paving, 15 blocks	T. C. Hughes, C. Engr.
Wis.	Wausau	May	15.. Seven blocks of vitrified brick	Bd. Pub. Wks.
Sask.	Regina	Noon, May	15.. Sidewalks and pavements	F. McArthur, City Engr.
Manitoba	Winnipeg	May	15.. Refined asphalt and fluxing oil.	Bd. of Control.
N. J.	Camden	10 a.m., May	17.. Asphaltum road dust oil, 40,000 to 50,000 gals.	J. P. Earl, Chmn. Comm.
N. Y.	Niagara Falls	May	20.. Paving two streets	Bd. Pub. Wks.
N. Y.	Hudson	10.30 a.m., May	20.. Relaving 4,975 lin. ft. curbstone, 13,600 sq. yds. vitri-	H. M. James, Sec. Com. P. W.
Fla.	Pensacola	May	27.. Granocrete, 22,000 yds.	G. Rommel, Jr., Ch. Engr.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
SEWERAGE				
Wis., Jefferson	2 p.m., Apr. 26..	Storm sewers	Bd. of Pub. Wks.
Me., Kennebunk	2 p.m., Apr. 26..	Pipe sewers, 15,200 ft. 6 to 15-in.	A. A. Richardson, Chmn. Com.
Ia., Fort Dodge	9 a.m., Apr. 28..	Sanitary sewer	W. L. Tang, City Clk.
Quebec, St. Rose	Apr. 28..	Sewerage and aqueduct system	J. A. Joby, Secy-Treasurer.
Mo., Hermann	8 p.m., Apr. 28..	Sewer laterals, 4½ miles	Burns & McDonnell, Kansas City, Mo.
Kan., Great Bend	Apr. 28..	Outfall sewer, 21-in.	H. A. Roland, Engr., McPherson, Kan.
O., Toledo	Noon, Apr. 29..	Sanitary sewer	C. J. Sanzenbacher, Co. Aud.
N. J., Newark	Apr. 29..	Section No. 6 Passaic Valley Sewer	Passaic Valley Sewer. Comr.
O., Celina	Apr. 29..	Sewer pipe	J. K. Carlin, Vil. Clk.
Conn., Waterbury	4 p.m., Apr. 29..	Sewers and storm water drains	R. A. Cairns, City Engr.
Mo., Kennett	Apr. 30..	Clay pipe, 8½ miles, pumping and disposal plant	J. D. Spence, Mayor.
O., Springfield	Apr. 30..	Sewers	C. E. Schaefer, Dir. P. S.
Ky., Madisonville	2 p.m., Apr. 30..	Sanitary sewer system	W. J. Dulin, Sec. B. P. W.
N. Y., Brooklyn	11 a.m., Apr. 30..	Pipe sewers	A. E. Steers, Boro. Pres.
N. Y., Elizabeth	8.30 p.m., May 1..	Two small sewers	W. P. Neafsey, St. Comr.
Fla., Orlando	May 1..	Sanitary sewers, 26½ miles	G. R. Ramsey, C. Engr.
O., Ashtabula	May 1..	Sewer, 950 ft. 30-in.	L. A. Amsden, C. Engr.
Mass., Amherst	May 1..	Sewer system	John Mullen, Chmn. Comrs.
N. Y., Greece	2 p.m., May 1..	Sewers	T. W. Eddy, Sec. Sewer Comrs.
Iowa, Burlington	9 a.m., May 1..	Sewers, three jobs	H. G. Volmer, City Engr.
O., Bexley	Noon, May 1..	Sanitary sewers, 8 miles 8 to 18-in.	A. E. Kimberly, Engr., Columbus.
N. Y., Oswego	2 p.m., May 2..	Sewer system and disposal plant	C. H. Snyder, C. Engr.
Ky., Louisville	May 2..	Sewers, 47 blocks	R. W. Burks, Engr.
Ont., Western	Noon, May 5..	Sedimentation tanks, percolating filters, dosing chamber, etc.	J. H. Taylor, Clk.
Sask., Regina	Noon, May 5..	Sewer pipe, 103,000 ft. 6 to 24-in.; 4,000 ft. 30 to 42-in. concrete pipe, &c.	F. McArthur, C. Engr.
Ia., Carroll	May 5..	Sanitary sewers, 53,300 ft. 6 & 8-in.	J. L. Dougherty, C. Clk.
Ala., Birmingham	May 6..	Concrete sewer, 6,000 ft.; 5,000 ft. brick sewer, 10,000 ft. laterals	W. G. Kirkpatrick, City Engr.
Wis., Evansville	Noon, May 6..	Sanitary sewer, 6,198 ft.; 1,900 ft. storm sewer	F. W. Gillman, City Clk.
Mo., California	May 7..	Sewer laterals, 4 miles	Burns & McDonnell, Engrs., Kansas City.
N. Y., Oneonta	8 p.m., May 7..	Intercepting sewer; vit. pipe, 9,150 ft. 10 to 21-in.	S. H. Close, C. Clk.
Ill., Abington	May 9..	Storm and sanitary sewers; cost, \$25,000	A. L. Richey, C. Engr.
Sask., Weyburn	May 12..	Sewerage filtration plant, laying sewer & water pipe	J. D. Murray, Sec. Treas.
Neb., Geneva	2 p.m., May 12..	Concrete pipe, 4,000 ft. 36-in.	F. B. Ashton, Dist. Secy.
La., Ruston	May 15..	Sewerage system	S. D. Pearce, Pres.
Mass., Fitchburg	May 15..	Tanks, filters, &c; cost, \$200,000 to \$300,000	D. A. Hartwell, Chf. Engr.
Sask., Regina	Noon, May 15..	Sewer pipe, 103,000 ft. 6 to 24-in.; 4,000 ft. 30 to 42-in. concrete pipe	F. McArthur, C. Engr.
O., Ravenna	June 2..	Settling tanks & siphons; cost, \$10,000	W. H. Linton, Dir.
WATER SUPPLY				
O., Euclid	Apr. 28..	Water mains, 6-in.	F. A. Pease Engr. Co.
Mo., Marysville	Apr. 28..	Brick water tower, steel tank	H. L. Flint, Supt.
Man., Winnipeg	11 a.m., Apr. 28..	Furnishing 2,500 ½-in. water meters	Chairman Bd. Control.
Ont., Sarnia	Apr. 28..	Force mains, 11,700 ft. 24-in., pumps, &c.	K. A. McLean, Twn. Engr.
Mich., Highland Park	2 p.m., Apr. 28..	C-l pipe, 950 tons	R. M. Ford, Vil. Clk.
N. Y., New York	Apr. 29..	Appurtenances for gate chambers	Bd. of Water Supply.
Mass., Boston	Noon, Apr. 29..	Trenching, setting hydrants, &c.	L. K. Rourke, Comr. P. Wks.
Mass., Boston	Noon, Apr. 30..	Water pipes with flexible joints, 185 tons 12 to 36-in.	J. E. Mullen, Supt. Supplies.
Canada, Moose Jaw	Noon, Apr. 30..	Cast-iron pipe and specials	City Commissioners.
Md., Baltimore	Apr. 30..	Filtration plant; cost, \$1,750,000	Bd. of Awards.
Mo., Kennett	7 p.m., Apr. 30..	C-l pipe, 8½ miles, tank, tower & pumping station, deep wells	J. D. Spence, Mayor.
Ont., St. Thomas	Apr. 30..	Water tower, 500,000 gals.	G. K. Crocker, Chmn. Comrs.
Ky., Madisonville	2 p.m., Apr. 30..	Water works system	W. J. Dulin, Sec. B. P. W.
O., Lima	May 1..	Pump, 6,000,000 gals., two 150-H.P. boilers, 3 miles 20-in. mains	G. A. Crayton, Engr.
Ont., Leamington	May 1..	Reinforced concrete reservoir	R. M. Selkirk, Town Clk.
Ont., London	Noon, May 1..	C-l pipe, 1,450 tons 4 to 12-in., lead, hemp, &c.	Bd. Comrs.
D. C., Washington	2 p.m., May 1..	Water meters, 10,000 ½-in.	C. H. Rudolph, Comr.
S. D., Chamberlain	10 a.m., May 2..	Artesian wells, one to four	A. A. Maack, Co. Aud.
Cal., Tulare	8 p.m., May 5..	Water mains, tanks, &c.	E. Oakford, C. Clk.
N. Y., Mexico	2 p.m., May 7..	Water mains, 9 miles, 860 tons; pumps, filters, &c.	W. J. Collins, Chmn. Comrs.
O., Willoughby	May 10..	High service pumps, etc.	Bd. of Pub. Affairs.
Quebec, Montreal	May 16..	Enlarging aqueduct, 203,000 cu. yds. concrete, &c; cost \$2,500,000	L. N. Senecal, Secy.
Egypt, Cairo	July 1..	Furn. equip't for pump'g station, 7,000,000 meters	Pub. Works Ministry.
LIGHTING AND POWER				
Ill., Springfield	10 a.m., Apr. 28..	Improving electric light plant	J. S. Shnepp, Mayor.
O., Paulding	Apr. 29..	Engines, boilers, generators, meters, pumps, &c.	P. W. Stumm, Clk. Trustees.
N. D., Reynolds	Apr. 30..	Electric lighting plant; cost, \$5,000	M. N. Brathorpe, C. Aud.
Cal., Pacific	April 30..	Synchronous motor generator or converter set	E. W. Bull, Supt.
S. D., Willow Lake	May 1..	Electric light plant	J. F. Flindt, Aud.
Va., Covington	May 5..	Franchise for electric light plant	W. C. Wright, Clk. Council.
D. C., Washington	2 p.m., May 5..	Oil engine and generator, 25-H.P.	C. H. Rudolph, Chmn. Comrs.
Minn., Lesueur Center	Noon, May 6..	One or two steam boilers	J. H. Kaisersatt, Co. Aud.
Manitoba, Winnipeg	11 a.m., May 15..	Large generators for turbines	M. Peterson, Secy.
N. J., Camden	June 16..	Underground conduits, 219,000 ft., subway, 24,000 ft., 128 standards, &c.	C. Council.
Chile, Santiago	Sept. 10..	Illuminating plant for port works	Comision de Puertos.
FIRE EQUIPMENT				
Wash., Tacoma	1 p.m., Apr. 26..	One motor propelled automatic hoist, 75 ft aero hook and ladder truck	A. U. Mills, Comr. Pub. Saf.
N. Y., New York	10.30 a.m., Apr. 28..	Two fire houses	Jos. Johnson, Fire Comr.
N. Y., Schenectady	2.30 p.m., Apr. 30..	2 automobile Chassis for Fire Dept.; fire hose, 1,000 ft 2½-in., 500 ft. 3-in.	F. E. Johnson, Sec. Bd. Con.
N. J., Highland Park	May 1..	Motor fire apparatus, any type	City Clk.
Pa., Forty Fort	May 5..	Auto fire truck	W. T. Pettibone, Chmn. Com.
Sask., Moose Jaw	May 9..	Motor apparatus and alarm system	City Secy.
BRIDGES				
Ill., Mineral	12.30 m., Apr. 28..	Two concrete bridges; cost, \$3,075	J. S. Hartley, Town Clk.
Ill., Ottawa	Apr. 30..	Concrete bridge	A. E. Bach, Co. Clk.
Ill., Bethany	3 p.m., May 1..	Concrete bridge, \$3,250	Wm. Stables, Town Clk.
Minn., Detroit	10 a.m., May 1..	Four bridges	W. J. Morrow, Co. Aud.
Pa., Mount Carmel	May 2..	Concrete bridge	Co. Comrs.
Md., Baltimore	May 2..	Concrete viaduct, 1,600 ft. long; cost, \$250,000	Bd. of Awards.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
N. J.	Camden	11 a.m., May 6	Four bridges	J. J. Albertson, Co. Engr.
B. C.	Victoria	May 7	Concrete bridge over river	J. E. Griffith, Engr. P. Wks.
O.	Cleveland	11 a.m., May 7	Concrete bridge	J. F. Goldenbogan, Clk.
Minn.	Red Wing	1 p.m., May 13	Five bridges	C. H. Meyer, Co. Aud.
Ill.	La Salle	May 15	Steel and concrete bridge	A. Johnson, State Engr.
MISCELLANEOUS				
N. Y.	New York	11 a.m., Apr. 28	Removing building and building playground	C. B. J. Snyder, Supt.
N. Y.	Brooklyn	11 a.m., Apr. 28	Athletic equipment	C. B. J. Snyder, Supt.
O.	Youngstown	Noon, Apr. 29	Auto truck	W. H. McMillin, Clk.
N. Y.	New York	Noon, Apr. 29	Rubber hose, 2½-inch	W. E. Edwards, Comr. St. Cleaning.
S. C.	Columbia	Apr. 29	Gasoline or oil tractor for road work	John MacNeal, C. Engr.
Mass.	Boston	10 a.m., Apr. 29	Stone crusher	Navy Dept., Washington, D.C.
Sask.	Moose Jaw	Noon, Apr. 30	Valve, chamber frames, manhole frames	City Comrs.
O.	Cleveland	Noon, Apr. 30	Constrn. approaches to subway	W. J. Springborn, Dir. P. S.
Mass.	Boston	3 p.m., Apr. 30	Improving soil, fertilizing, &c.	D. H. Sullivan, Chrmn. Com.
Minn.	Eveleth	May 1	Plant, shrubberies, &c, for 10 acres; 2,000 metal tree guards	D. P. McIntyre, C. Clk.
Iowa	Crescent	Noon, May 1	Constructing township hall	J. A. Pratt, Twp. Clk.
N. J.	Elizabeth	7.30 p.m., May 1	Removing garbage refuse and ashes for 3 years	Thos. Durett, Chrmn. Comm.
N. Y.	Lockport	About May 1	Garbage disposal plant, cost \$5,000	J. F. Freshee, C. Engr.
Ga.	Augusta	Noon, May 1	Police signal system	L. C. Hayne, Mayor.
N. C.	Lumberton	May 5	Two jail cells	Robeson Co. Comrs.
N. J.	Belleville	May 14	Town hall	Town Clk.
Cal.	Los Angeles	June 20	Bldg. & operating garbage disposal plant. Reduction or incineration	Bd. of Public Works.

STREETS AND ROADS

Los Angeles, Cal.—Petitions have been received asking for various street improvements.

Pasadena, Cal.—Resolutions have been adopted for improvement of various streets.

Boulder, Colo.—State Highway Commission has apportioned sum of \$8,000 for construction of roads in Boulder county and has indicated that more will be contributed in near future if county is willing to meet it.

Waterbury, Conn.—Further steps toward assuring Waterbury of permanent pavements on several of its principal business and residential streets have been taken up by board of public Works when City Engineer Cairns was instructed to advertise for bids for paving of all streets approved of by board of aldermen. Only change made is that in paving of Willow st., bid for both bitulithic and Roman road paving material will be submitted. Streets for which bids will be submitted are Willow, Meadow, North Elm and Water sts., Exchange place and bank st., from Exchange place to Grand st.

Delaware City, Del.—City Council will pave various streets.

Laurel, Del.—Herbert W. Hatton, consulting engineer, has been engaged by Mayor and Council to prepare plans for street improvements.

Jacksonville, Fla.—Four bills providing for paving of certain sections of St. Johns ave., East Bay st., Sparring st. and Main st., all of which have been reported several times together with kind of material of paving specified and estimates of cost, have all been finally passed. In same way paving of certain sections of Jefferson, Bay and Parker sts., which have also been reported, have been passed on their first reading and referred to laws and rules committee.

Jacksonville, Fla.—More streets have been passed for modern paving as follows: Enterprise st., Myrtle ave. to the Atlantic Coast Line crossing; Laura st., Adams to Duval st.; Duval, Main to Laura st.; Florida ave., Darwin to Howard st.; Bay st., Cleveland st. to Myrtle ave.; Parker st., Talleyrand ave. to Marshall st.; Jefferson st., Adams to State st.; Myrtle ave., Kings road to city limits.

Pensacola, Fla.—Ordinance has been adopted for paving of three blocks of 17th ave.

Tampa, Fla.—Board of Public Works has ordered clerk to advertise for bids for 5,000,000 more paving brick and 100,000 lin. ft. of granite curbing.

Quincy, Ill.—Board of Local Improvements has presented two ordinances for paving, one for paving of Hampshire st., between east line of Third st. and west line of Fourth st., at estimated cost of \$3,290, and one for paving of Fifth st., between north line of Hampshire and south line of Vermont st., this to cost \$3,100.

Indianapolis, Ind.—Marion County Council has authorized bond issue of \$500,000, with which to make repairs on roads and bridges damaged by recent floods.

Muncie, Ind.—Following public improvements have been confirmed without modification: For building of alley between Jackson and Adams sts., from Madison st. to Elm st., estimate, \$600.75; for paving of Ebricht st., from Jackson st. to first alley south, estimate, \$78; for paving of Monroe st., from Charles st. to Big Four Railroad, estimate, \$373.92; for paving of Jackson st., from Grant st. to point 25 feet west of alley between Madison and Elm sts., estimate, \$769.25; for paving of Plum st., estimate, \$75; for North st., from Walnut st. to Madison st., cement curb and gutter, estimate, \$1,549.90.

Muncie, Ind.—Three-inch creosote wood block, treated with sixteen pounds of oil and with asphaltum filler, will probably be material used in the paving of East Washington st., from Mulberry st. to Pennsylvania Railroad.

Richmond, Ind.—To defray cost of improving National road, east, bond issue of \$50,000 will be made by county commissioners.

Council Bluffs, Ia.—First step towards construction of system of permanent roads in Potawattamie county, as provided for in law establishing state highway commission, has been taken by board of supervisors when leading roads of county were set aside by board as county roads. Altogether, from 240 to 245 miles of road have been taken under care of county.

Des Moines, Ia.—Two million dollars to beautify grounds of Iowa state capitol has been appropriated by legislature. Twenty additional blocks of ground will be purchased.

Lexington, Ky.—Ordinances have been adopted for improvement of various streets.

Louisville, Ky.—Board of Public Works has opened bids for street work to cost \$37,000. Streets to be paved are: Burnett ave., from 18th to McCloskey st.; Barney, from Clark to Bonnycastle ave.; Everett ave., from Alta to Bonnycastle ave., and Dumesnil st., from the K. & I. Railroad to 32d st., all of which are to be paved with asphalt. The bidders: Bickel Asphalt Co., American Standard Asphalt Co., Jefferson County Asphalt Co., and the Louisville Asphalt Co. Cleveland ave., from 28th to 29th st., and 29th, from Cleveland to the south line of St. Xavier, are also to be paved, the latter two lots to cost about \$9,700 and to be of brick.

Shreveport, La.—By almost unanimous vote at Benton resolution was adopted, petitioning Police Jury to order an election upon proposition of voting \$300,000 in bonds for building permanent good roads in Bossier Parish, similar to system being constructed in Caddo.

Baltimore, Md.—Paving of city streets is being discussed.

Baltimore, Md.—State Roads Commission has arranged to have every foot of State road in Maryland oiled within next few weeks at cost of about \$100,000.

Lowell, Mass.—James E. Donnelly, commissioner of streets and highways, and City Engineer Kearney, have outlined plans for general street paving for year.

Lowell, Mass.—Order for macadamizing of various streets has been passed.

Taunton, Mass.—Order for a bond issue of \$32,000 for permanent repairs on highways of the city during present season will be presented to Municipal Council by Committee on Streets and Bridges.

Kalamazoo, Mich.—Asphalt will be laid on Stewart ave., from Kalamazoo ave. to North st., and on Portage st., from Washington ave. to Reed st., with asphalt concrete and Bermuda. This paving will be done upon sale of \$64,000 street improvement bonds, and \$42,000 city improvement bonds which are to be delivered on July 1, 1913.

St Paul, Minn.—Bids for city bonds to amount of \$209,732.85 will be received by City Comptroller W. C. Handy up to noon, April 23. The money will be used for the first city paving of the year.

Monroe City, Mo.—Election has been called for April 28 for \$78,000 for water works and sewers. Plans and specifications have been prepared. Burns & McDonnell, Engineers, Scarrett Building, Kansas City, Mo.

Concord, N. H.—New Hampshire is going to build a "Wilson Road" in honor of President Wilson. Road is to be built at cost of \$12,000 from Connecticut river to Winston Churchill place at Cornish.

Bloomfield, N. J.—Plans are being made for repaving of Bloomfield ave.

Elizabeth, N. J.—New bids will be advertised for oiling telford streets of city, about 250,000 sq. yds.

Elizabeth, N. J.—Board of Freeholders has authorized resurfacing and improving of sections of roads in all parts of county, which, when completed will make four continuous hard-paved thoroughfares throughout county. Roads to be thus treated are Westfield ave., from Walnut st., Roselle Park, to Bayway; North ave., from the Rahway River, Cranford, to Locust st., Roselle Park; Wood ave., Linden, from St. George ave. to Edgard road; North ave., Lenox ave. and Elmer st. through Westfield, and Garwood to Eastman st., Cranford; Mountain ave., from Springfield to Scotch Plains; Morris ave., through Springfield township to Summit; St. George ave., from Grand st., Rahway, to Middlesex county line, and South ave. through Fanwood township, from Terrell road, Plainfield to Westfield. Advertising for bids for this work has been authorized.

Elizabeth, N. J.—Ordinances have been passed for paving of Anna st., from Spring to Henry sts., with brick, and of Christine st., from First to Third aves., with brick. Notices of intention were ordered for paving of Court st., from Third to Fourth sts.; paving and flagging of Pennington st. and paving of South Seventh st.

Salem, N. J.—Common Council has voted to extend Market st., a main business thoroughfare, from Broadway to Carpenter.

Trenton, N. J.—Ordinances have been adopted for paving of various streets.

Batavia, N. Y.—Batavia Board of Aldermen has decided to pave Summit st., a thoroughfare 2,500 ft. long, with brick. Expense of about \$25,000 is to be divided one-third to city and one-

third of property owners on each side of street. Work will be done this summer.

Brooklyn, N. Y.—Thirty-five proposed local street improvements have come before meetings of local boards of New Lots, Bushwick and Heights districts at Borough Hall. Thirty-one of proposals were passed and four laid over.

Fredonia, N. Y.—Trustees of village of Fredonia, following favorable vote on the highway bond improvement proposition, have provided for bond issue in sum of \$16,700. Proceeds will be used to pave East Main st., from D., A. V. & P. tracks to corporation line.

Herkimer, N. Y.—Board of Trustees has received bids for paving of Bellinger st. and of part of Bellinger ave., from Prospect st. to Bellinger st. Bids were laid over and will likely be acted upon at special meeting within few days. Two bids were received. Warren Brothers' Co. bid as follows: Bitulithic, on four-inch crushed stone foundation, \$2.15 per sq. yd.; Medina sandstone curbing, 90 cts. per lin. ft.; circular curbing, \$1 lin. ft.; sewer pipe, 40 cts.; headers, 50 cts.; catch basins, \$35 each; for gravel concrete, \$2.13 per sq. yd. Bid of Alfred Musso read as follows: Bitulithic, \$2.09 per sq. yd.; curbing, new, 85 cts.; circular curbing, \$1.50; sewer pipe, 30 cts.; headers, 50 cts.; catch basins, \$38 each; brick, per sq. yd., \$2.29. Total bid of Mr. Musso exceeds by \$1,043.58 the bid of Warren Brothers on bitulithic pavement, while his bid for brick pavement is greater by \$1,903.28 than the bid of Warren Brothers' Co., the totals being as follows: Mr. Musso, \$20,546.83 on brick, and \$19,687.13 on bitulithic; Warren Brothers' Co., \$18,483.55 on bitulithic. Bids complete are: Mr. Musso, \$26,704.13 for brick and \$25,704.13 for bitulithic; Warren Brothers' Co., gravel foundation, \$24,488.61, and crushed stone, \$24,660.55.

Ithaca, N. Y.—Budget for 1913 provides for improvements to streets.

Newburgh, N. Y.—Mr. Blake has been directed to prepare estimate of cost of improving Mill st., from Broadway to Washington st., with concrete paving, the curbs also to be of concrete.

Niagara Falls, N. Y.—At meeting of Common Council recommendation of Board of Works to pave Lockport st., from Main st. to Ontario ave., was approved. Street is to be 30.84 feet wide. Estimated cost is \$42,850.

Port Jervis, N. Y.—Sussex County Freeholders have planned to improve about 23 miles of roads.

Rochester, N. Y.—City Engineer Fisher has announced that bids would be advertised on two ordinances providing for resurfacing of Lake ave., between Lyell ave. and Driving Park ave. Two ordinances were adopted by Common Council, one providing for bituminous pavement and other for asphalt.

Rochester, N. Y.—No bids have been received for regrading of Central ave., at Clinton ave. North, and they will be re-advertised.

Rochester, N. Y.—Ordinances have been passed for improvement of various streets.

Schenectady, N. Y.—Extension of Jay st. is being favorably considered.

Schenectady, N. Y.—Bids for patching and repaving of street pavements have been rejected as too high. It is understood city will undertake this work.

Utica, N. Y.—In the matter of awarding contract for paving work in Waverly place and West st., members of board have decided to re-advertise for bids.

Whitesboro, N. Y.—Movement is now on foot in village to have upper Clinton st. paved, and at the same time it is proposed that New York State Railway Co. extend its New York Mills line from Sadaquada Golf Grounds over to and down Clinton st., to Rome and Little Falls line.

Wilson, N. C.—Election held for issuance of \$160,000 in bonds for street and electric light improvements has been carried by good majority.

Wilson, N. C.—Wilson has voted overwhelmingly for \$160,000 bond issue, \$80,000 to be issued for street improvement and \$80,000 for larger electric plant.

Cincinnati, O.—Bond issue of \$500,000 has been recommended for repair of streets.

Dayton, O.—Bids will be received at office of city auditor until 12, noon, May 19, for purchase of bonds in sum of \$40,900 for repair and improvement of various streets; also in sum of \$18,300 for constructing sidewalks, curbing, etc. Geo. W. Bush, City Auditor.

Girard, O.—Paving of East Liberty st. has been authorized.

Hamilton, O.—County Commissioners have instructed Engineer L. A. Dillon to make examination and report as soon as possible on all county bridges and roads washed away or damaged by late flood throughout county.

Pulaski, O.—Meeting of Pulaski Township residents will be held to ask township trustees to call special election to issue bonds for purpose of improving Pulaski Township roads.

Salem, O.—State highway commissioner has given his consent to improve part of Ellsworth road to 14 feet so that entire mile will be paved to that width.

Toledo, O.—Ordinances have been adopted for improvement of various streets.

Toledo, O.—Resolutions declaring it necessary to pave a half dozen streets have been adopted by Council and resolutions for other paving jobs have been introduced and sent to Public Improvement Committee for consideration.

Youngstown, O.—Three additional roads, making nine in all, have been advertised by good roads as follows: Jacobs road, from Hubbard road to Coitsville Township line, 3,685 ft. (limestone or slag); Campbell road No. 2, from section No. 1 to Pleasant Grove road, 2,800 ft. (limestone or slag); Boardman Center east road, from Youngstown road to Youngstown and Southern tracks, 2,135 ft. (brick).

Portland, Ore.—Within three weeks bids will be asked for grading a boulevard along hills from Thurman st. to Linnton, to make scenic route.

erie, Pa.—Ordinance has been passed providing for paving, curbing and grading Plum st., from Park ave. to Third st., and for grading, curbing and draining of Reed st., from 21st to 26th st.

erie, Pa.—Paving of various streets have been authorized.

erie, Pa.—Numerous ordinances are being prepared calling for paving of various streets.

Harrisburg, Pa.—Ordinances have been passed for paving and curbing of various streets. J. H. Knisely, Clerk Select Council.

Lingiestown, Pa.—State road between Harper hotel and Paxtonia, will be repaired this spring.

Mauch Chunk, Pa.—Mauch Chunk Council is receiving bids for paving of principal streets in Second and Third Wards with vitrified brick on concrete foundation.

Philadelphia, Pa.—Work on resurfacing of country roads amounting to \$175,000 will be taken up by department of public works in near future. Energies of department this year will be directed to developing main arteries of travel from city to important suburbs and adjacent counties. It is estimated that \$900,000 is needed this year to resurface these roads which are in worst condition. Work which ought to be done according to department would entail expenditure of \$3,000,000. Department plans to apply bituminous surface treatment to some roads resurfaced last year with water-bound macadam.

Scranton, Pa.—County Commissioners have decided to incorporate in county road specifications provision for use of any brand of asphalt that measures up to standard test as established by American Society of Engineers, instead of limiting character of asphalt to one particular kind. Commissioners, their road engineer, Harry Hall, and County Solicitor John B. Jordan have specifications prepared and will be ready shortly to advertise for bids for about 183,000 yds.

Swatara, Pa.—About \$8,000 will be appropriated for improving roads.

Williamsport, Pa.—Ordinance has been adopted for grading and paving portion of South st., from West Fourth st. to Edwin st. J. J. Galbraith, City Clerk.

Providence, R. I.—Aldermanic committee on streets has voted to recommend passage by City Council of resolution requesting General Assembly permission for city to borrow \$100,000 for purpose of widening and improving Elmwood ave., from Roger Williams Park railroad bridge to city line.

Bristol, Tenn.—Sullivan county court has made appropriation for construction of county's section of Memphis-to-Bristol highway, work to be begun at once. County is now expending \$200,000 in road improvement.

Knoxville, Tenn.—Petition of residents along Sevierville pike south of county bridge for tarvia-covered road has been considered by road commission, and appropriation of \$15,000 for purpose of providing tarvia road as petitioned has been voted on favorably. Appropriation of \$3,000 each for the Kimberlin Heights and the Tillery roads were also voted.

Cameron, Tex.—In election held at Gause to vote on issuance of \$50,000 road bonds, bond issue carried. Milam County has no road bonds. Election for \$150,000 issue in Justice Precinct No. 1 will be held shortly.

Dallas, Tex.—Board of Municipal Commissioners has started necessary steps for widening of Laws st., from McKinney northward to Katy, and of Broom st., from Katy eastward to Carter, joining North Lamar at Katy.

Dallas, Tex.—Petition is being considered asking for paving of Bryan st., distance of more than a mile.

Dalhart, Tex.—Petitions will be presented to Commissioners' Court asking that election be called for purpose of voting \$10,000 road bonds.

Terrell, Tex.—Arrangements are being made to begin street paving in this city on May 1.

Brigham City, Utah.—County Commissioners have appropriated \$8,000 to State Road Commission for work on unfinished stretch of State road between Hot Springs and Brigham City.

Richmond, Va.—City Engineer Bolling has been instructed by Administrative Board to repair sidewalks on both sides of Broad st., between First and Eighth sts., the cost not to exceed \$800.

Moundsville, W. Va.—Marshall County Court has sold bonds amounting to \$50,000 to the Mutual Bank of Wheeling at par, or \$50,000. Money will be expended in building new roads in Union district which voted for \$150,000 bond issue at general election.

Wheeling, W. Va.—About \$100,000 will be spent this year by county for road improvements.

South Bend, Wash.—City Council has decided to extend paving of Water st. about eight blocks through deep cut. City has decided to do its own paving and has purchased a paving machine. Extensive plans are also made for grading and putting in sewers.

Walla Walla, Wash.—Plans are being made for grading of Walla Walla-Waitsburg road.

Kenosha, Wis.—State Highway Commission has decided to improve Lake Shore road through Kenosha county by building of concrete highway.

Superior, Wis.—Paving of Baxter ave. is being discussed.

CONTRACTS AWARDED.

Montgomery, Ala.—For graveling 3½ miles of Hunter road, to L. W. Hunter, of Montgomery.

Little Rock, Ark.—By Comrs. of Street Improv. Dist. No. 214, contract for paving of E. Second St. Improv. Dist. with creosote blocks, to Shelby & Bateman, at \$72,892.

Lodi, Cal.—The County Supervisors have awarded contract to macadamize Hutchins st. from Pine st. to Lodi ave. to F. F. Irely.

Pasadena, Cal.—For improving East Orange Grove ave., to E. J. Hart, 507 E. Orange Grove ave., Pasadena, at \$11,760. This calls for 114,000 sq. ft. 6-in. oil macadam, 42 ft. wide, and 10,000 sq. ft. gutter 2 ft. wide. R. V. Obison is Deputy City Engr.

Champaign, Ill.—By city, for brick pavement, to Stipes & Pilcher, of Champaign, as follows: 2-in. sand cushion, asphalt fill, on W. University ave.; 18,100 cu. yds., 6,076 lin. ft. curb, etc., at \$45,430; W. Park ave., 8,000 sq. yds. with 5,290 lin. ft. curb and gutter etc., at \$19,145; and E. University ave., 9,000 sq. yds. with 5,350 lin. ft. curb, etc., at \$22,954.

Indianapolis, Ind.—To Union Asphalt Construction Co. by board of public works to pave West Washington st., from White river to Belmont ave. The street is to be paved with asphalt, and contract price is \$41,799.50.

Muncie, Ind.—Contract for construction of cement alley between High and Franklin sts., from Howard st. to Seymour st., has been awarded to George T. Miller at his bid of 16 cts. per sq. ft.

Paoli, Ind.—For constructing Orlean and Livonia road, Stampers Creek Township, length 7,033 ft., to Jas. P. Wilson, of Paoli, at \$3,127; West Baden and Mitchell road, Northwest Township, total length 2 miles, to Chas. Trowbridge, of West Baden, at \$3,514.

Richmond, Ind.—To Schneider Brothers, contract for construction of cement walk on west side of North Eighth st., from Main to North E. at 11 cts. a sq. ft., and for cement sidewalk on South 11th st., from South A to South E st., at 10½ cts. a sq. ft. D. Burkhardt secured contract for cement curb, gutter and sidewalk on South Tenth st., from C to South E st. Cost of construction will amount approximately \$2,450. His bid was 10

cts. a sq. ft. for sidewalk, 60 cts. for straight curb and gutter per linear foot and 70 cts. lin. ft. for the circle curb and gutter.

Winchester, Ind.—For 13,000 sq. yds. brick paving to Trippur & Son, of Peru, at \$38,314, for Townsend block. Other bidders: Geo. T. Miller, Lebanon, \$38,515; Sisk & Sprinkle, Portland, \$40,163; Jas. J. Barnes, \$40,700; Fitzmaurice & Beard, Winchester, \$38,901; J. B. Craig, Greenfield, \$39,978. W. M. Batchelor is City Engr.

Waterloo, Ia.—By city council for paving East Fourth st., from Franklin to Dave to Bryant Asphalt Co., at \$2.24 per sq. yd.

Louisville, Ky.—Contracts for street construction to cost approximately \$27,000 were awarded by the Board of Public Works to the following contractors: Louisville Asphalt Co., Dumesnil, from the K. & I. tracks to Hazel st., \$4,800; Jefferson County Construction Co., Barney ave., from Park road to Bonnycastle ave., \$6,200; The Bickel Asphalt Paving Co., Dumesnil, from Hazel to 32d st., \$3,400; Burnett, from 18th st. to McCloskey ave., \$5,400; the American Standard Asphalt Co., Edward ave., from Alta to Bonnycastle, \$3,163; the L. R. Figg Co., 29th st., from Cleveland ave. to St. Xavier st., \$4,100.

Baltimore, Md.—By State Roads Commission, contracts as follows for road improvements: Baltimore County, Sec. 1.—49 miles, bituminous concrete, Elder Paving Co., Baltimore, \$18,349; Sec. 2.—1.46 miles macadam, Rich & Justi, Equitable Bldg., \$17,703; Carroll County, Sec. 1.—1.37 miles macadam, I. C. Moller, Muirkirk, \$17,634; Sec. 2.—1.72 miles concrete, Hassam Paving Co., Worcester, \$16,853; Harford County.—90 mile macadam, Little & Spencer, Arlington R. F. D., No. 2, \$7,921; Montgomery County, Sec. 1.—2.12 miles macadam, I. C. Moller, Muirkirk, \$25,732; Sec. 2.—2 miles concrete, Hassam Paving Co., Worcester, \$26,852; St. Mary's County.—4.8 miles concrete, Hassam Paving Co., Worcester, \$53,136; Somerset County.—2.71 miles concrete, Hassam Paving Co., Worcester, \$30,426; Talbot County.—2 miles, concrete, Hassam Paving Co., Worcester, \$19,537.

Rockville, Md.—By County Commissioners, to Forsythe & Smith, of Belaire, Md., contract for construction of pike from Cohasset along River road to District of Columbia line, distance of little more than three miles, price being \$24,806.84.

Lawrence, Mass.—Proposals on granolithic walks are as follows: O'Mahoney estate, \$1.19 per sq. yd.; William Heinrich, \$1; Philip Holland, \$1.40. Award was made to Heinrich.

Duluth, Minn.—By Commissioners for improvement of Victoria st., from Hartley road to Woodland ave., to P. McDonnell, of Duluth. The thoroughfare will be paved with bituminous concrete, laid with 5-inch concrete base and a 2-inch wearing surface. Price as named in bid was \$14,348.50.

Duluth, Minn.—Engineering department has completed its tabulations of bids submitted on street improvement jobs which will be awarded by new commission. Bids were received on eight different jobs, ranging in estimated costs from \$4,000 to \$60,000. The aggregate cost will be \$180,000 to \$200,000. Warren Bros. were only bidders on bitulithic and P. McDonnell was low bidder in majority of other bids. Low bidders on various improvements, with amount of bid, were as follows: East Fourth st., between 14th and 23d aves., wood block, with concrete curb, P. McDonnell, \$58,139.50; with sandstone curb, Ed. Johnson, \$60,331.10; asphalt with sandstone along tracks, P. McDonnell, \$51,293.50; asphalt with brick along tracks, P. McDonnell, \$48,429.50; asphalt block, P. McDonnell, \$58,529.50; brick with concrete curb, P. McDonnell, \$55,344.50; brick with sandstone curb, Ed. Johnson, \$56,765.80; concrete, plan No. 5 P. McDonnell, \$43,724.50; reinforced concrete, P. McDonnell, \$44,918.50; bituminous concrete with sandstone along tracks, P. McDonnell, \$48,659.50; bituminous concrete with brick along tracks, P. McDonnell, \$45,795.50; bituminous concrete with toothed blocks along tracks, P. McDonnell, \$43,647.50; bitulithic with sandstone along tracks, Warren Bros. company, \$59,603.40; bitulithic with brick along tracks, Warren Bros. Co., \$56,381.40; bitulithic with toothed blocks along tracks, Warren Bros. Co., \$57,097.40; granitoid, P. McDonnell, \$50,466.50. Twenty-third ave., west from Michigan to Fourth st., sandstone with sandstone curb, P. McDonnell, \$34,725.05; sandstone with granite curb, P. McDonnell, \$35,839.80; brick with sandstone curb, E. A. Dahl & Co., \$31,630.74; brick with granite curb, E. A. Dahl & Co., \$33,032.14. Sixth st., between 18th and 20th aves. east, class C macadam, P. McDonnell, \$10,552.75; asphaltic macadam, P. McDonnell, \$11,865.75; concrete, P. McDonnell, \$12,332.25; reinforced concrete, P. McDonnell, \$12,266.75; asphalt, P. McDonnell, \$12,321.75; bitulithic, Warren Bros. Co., \$17,262.55; bituminous concrete, P. McDonnell, \$12,603.75; tarcon, P. McDonnell, \$12,198.75. First st., between First and Sixth aves. east, creosote block, General Contracting Co., \$33,462; sandstone, P. McDonnell, \$37,483.50; brick, P. McDonnell, \$32,992. Twenty-second ave. east, between Third and Fifth sts., asphalt, class B, P. McDonnell, \$4,055; asphalt, class C, P. McDonnell, \$3,771; macadam, Rogers & McLean, \$3,513; bituminous concrete, P. McDonnell, \$3,898; bitulithic, Warren Bros. Co., \$5,204.20; concrete, P. McDonnell, \$3,684.50; reinforced concrete, P. McDonnell, \$3,779.50; tarcon, P. McDonnell, \$3,404.50. Seventeenth ave. east, between Fourth and Seventh sts., asphalt, P. McDonnell, \$10,002.25; concrete, P. McDonnell, \$9,572.75; reinforced concrete, P. McDonnell, \$9,870.75; macadam, P. McDonnell, \$8,286.25; bituminous concrete, P. McDonnell, \$9,727.50; bitulithic, Warren Bros. Co., \$12,445.40; granitoid, P. McDonnell, \$11,874. Victoria st., from Woodland ave. to the Hartley road, macadam, J. A. Johnson, \$12,298.60; asphaltic macadam, P. McDonnell, \$12,599.50; bituminous concrete, P. McDonnell, \$14,348.50; concrete, P. McDonnell, \$13,404.50; reinforced concrete, P. McDonnell, \$13,835; asphalt block, P. McDonnell, \$15,493.50; granitoid, P. McDonnell, \$17,019.50; gravel, Rogers & McLean, \$9,465; tarcon, P. McDonnell, \$13,042.50. Fifth st., between 38th and 43d aves., gravel, Rogers & McLean, \$11,552.50.

Collins, Miss.—For construction of 26½ miles of earth and sand-clay roads, including all bridges and culverts, in Dist. 2, to M. H. Thomason, of Laurel, at \$18,335. Other bidders: W. H. Harriss, Collins, \$19,673; Boyd & Bradshaw, Columbia, \$20,002; W. H. Powell, Sumrall, \$20,440; Jas. McLeod, Jackson, \$25,308; S. O. Gano, Jackson, \$25,620.

Nevada, Mo.—To Chapin Constr. Co. of Kansas City, contract for 17,000 sq. yds. Dolarway pavement.

Belvidere, N. J.—Salmon Brothers, with bid of \$4,509, are the lowest bidders for construction of four and a half miles of stone road, from Blairstown to Hainesburg. Other bids opened by special committee of freeholders were those of C. H. Winans & Co., for \$59,290.92, and Allen Engineering and Construction Co., for \$63,875.39.

Glenridge, N. J.—For construction of cement sidewalks to Madison Construction Co., Madison, N. J., at following bid: 6,000 sq. ft., at 1½ cts. per sq. ft. Total \$690. Other bids as follows: F. W. Gibbs Cont. Co., \$825; Reeder Speir Co., \$732; Quadrel Bros., \$825; T. Schriver, \$690; Jos. Cestone, \$705; Donato Lusco, \$705, and F. Motto Co., \$870. John A. Brown, Borough Clerk.

Long Branch, N. J.—Yearly contracts for curbing, crosswalks and sidewalks have been awarded as follows: Concrete curbing, William H. Alexander, at 25 cts. per lin. ft.; concrete sidewalks, Henry Curtis, 15 cts. per sq. ft.; crosswalks, John C. Clark, at 45 cts. per lin. ft.

Newton, N. J.—By Board of Chosen Freeholders, for building macadam road, known as Whitehall section of the Newton Stanhope road, to Solomon Bros., of Nectong, at \$6,523.

Newark, N. J.—Contracts have been awarded to J. J. Hughes Construction Co. for laying of granite block in Crawford st., from Washington to High sts., for \$10,456, and for a granite pavement in Bowery st., from Market st. to Ferry st., for \$26,014. Ralph Sangiovanni was given the contracts for laying granite in Bank st., between Plane and High sts., for \$8,239, and for a similar pavement in Spruce st., between Washington and High sts., for \$10,831.50.

The Continental Public Works Co. has been awarded contract for laying asphalt in Harvey st., between Mt. Pleasant ave. and Moen place, for \$2,615, and asphalt block will be laid in North Twelfth st., between Sixth and Seventh aves., by the Hastings Pavement Co. for \$9,928.50. The same concern will pave Pearson st., between Hamburg place and Niagara st., for \$7,051.50. To McMahon Construction Co. have been awarded contracts for granite pavements in Alpine st., between Elizabeth and Johnson aves., for \$7,831.50, and in Marie place, between Belmont ave. and Badger ave., for \$4,586.

Westfield, N. J.—Contract for improving section of First st. and Osborn ave., known as Contract No. 3, has been awarded to Humphrey & Bentner for sum of \$7,601 by Town Council.

Westfield, N. J.—By council, contract for completion of brick and cement gutters in Westfield ave. to Schuler Cement Co., of Newark. Contract for this work was originally awarded to J. C. Park, of Cranford.

Brooklyn, N. Y.—By Pres. Brooklyn Borough, for paving, as follows: Regulating and repaving with permanent asphalt pavement a 6-in. concrete foundation New Utrecht ave. and Bay 17th st., from 86th st. to Cropsey ave., awarded to Topeka Co., 147 4th ave., N. Y. City, at \$21,929. Regulating and repaving with permanent asphalt pavement on 6-in. concrete foundation Court st., from Atlantic ave. to Hamilton ave., awarded to Brooklyn Alcatraz Co., 407 Hamilton ave., Brooklyn, as follows: 16,190 sq. yds. asphalt pavement, \$1.02; 40 sq. yds. old stone pavement (to be relaid), 50 cts.; 2,700 cu. yds. concrete, \$5.25; 8,780 lin. ft. new curb set in concrete, \$1.08; 2,195 lin. ft. old curb reset in concrete, 65 cts.; 220 lin. ft. granite heading stones set in concrete, 75 cts.; 110 noiseless covers and heads for sewer manholes, \$15; 24,000 sq. ft. old flagstones relaid, 5 cts.; 62,700 sq. ft. cement sidewalks (1 yr. maintenance), 16 cts.; total, \$54,665. Totals of other bids: Barber Asphalt Co., 30 Church St., N. Y. City, \$63,369; Cranford Co., 52 9th St., Brooklyn, \$57,865; Uvalde Asphalt Paving Co., 1 Broadway, N. Y. City, \$65,970; Borough Asphalt Co., 1301 Metropolitan Ave., Brooklyn, \$57,393; Topeka Co., 147 4th ave., N. Y. City, \$54,775. Regulating and repaving with permanent asphalt pavement on a 6-in. concrete foundation Rutland road and Fenimore st., from Flatbush ave. to Rogers ave., awarded to Uvalde Asphalt Paving Co., 1 Broadway, N. Y. City, as follows: 13,225 sq. yds. asphalt pavement (5 yrs. maintenance), \$1.10; 20 sq. yds. old stone pavement (to be relaid), 50 cts.; 2,205 cu. yds. concrete, \$6.75; 2,970 lin. ft. new curb set in concrete, \$1.20; 4,455 lin. ft. old curb reset in concrete, 80 cts.; 70 lin. ft. bluestone heading stones set in concrete, 75 cts.; 33 noiseless covers and heads for sewer manholes, \$18; total, \$37,216.

Port Jervis, N. Y.—By Sussex County Freeholders, for improvement of Whitehall section of Newton-Stanhope road to Salmon Bros., who agreed to deduct five per cent. from their lump bid of \$6,966.14.

Rochester, N. Y.—Bids have been received on following: Norton st. walks, North Goodman st. walks, Fraser st. asphalt, Travis st. asphalt, and Marlow st. walks. Announcement was made that contract for Lewis st. brick pavement had been transferred by H. N. Cowles to Aikenhead, Bailey & Donaldson. Asphalt was designated as pavement for Edinburgh st.

Rochester, N. Y.—By Board of Contract, contract for macadam pavement in East Boulevard, to William H. Sours, second, for \$7,500. Contract for brick pavement in Glendale Park to Harold F. Fisher for \$2,914, while for William H. Sours, second, contract for macadam pavement in Homer st., for \$2,506.

Schenectady, N. Y.—Contracts for paving 21 streets, total of 100,000 sq. yds. at \$1.50 per yd., have been awarded to John W. Davitt, the Troy contractor, by Board of Contract and Supply.

Schenectady, N. Y.—To J. W. Davitt, of Troy, contract for pavement of 21 streets with stone-filled sand bituminous pavement, by the Board of Contract and Supply. Communication was read from Mr. Davitt in which he agreed to lay concrete sidewalks in streets to be paved for 11½ cts. a ft. instead of 12 cts., as agreed to last when he reduced his bid from 15 to 12 cts. The Davitt contract is largest ever awarded in this city for street pavement.

Utica, N. Y.—Conditional contracts for paving work on Albany, Elm and Catharine sts. and Seymour and Capitol aves. have been awarded by Board of Contract and Supply. John W. Davitt, a paving contractor of Troy, was lowest and therefore successful bidder.

Jamestown, N. D.—M. P. Moore of Bismarck was lowest bidder in bids called for by city for construction of cement sidewalks and curbing. Mr. Moore's bid was as follows: Curbing, 38 cts. per lin. ft.; sidewalk, 12 cts. per sq. ft.; excavation, 30 cts. per cu. yd.; filling, 30 cts. per cu. yd.

Cincinnati, O.—To O. E. Robinson, contract for improving North Bend road from Hamilton pike to Cathage at \$5,511.

Youngstown, O.—Contracts have been awarded by Board of Control for paving of Maple ave. to Charles Harris for \$8,212.20, and grading of Ashland ave. to Mullin & Quinn for \$441.

Seranton, Pa.—Proposals for paving contracts amounting to several hundred thousand dollars have been opened by Director C. V. Terwilliger of department of public works. Work will now be divided up between the MacDonald Construction Co., R. C. Ruthven, with a possibility of some of the work going to Raymond & Co., a new firm, composed of A. C. Raymond and others. Bids were submitted as follows: Electric st., Monsey to Sanderson, asphalt; estimated cost, \$4,152; MacDonald Construction Co., \$1.89 per sq. yd.; R. C. Ruthven, \$1.95 per sq. yd. Maple st., Cedar ave. to Pitts ave., asphalt and stone block; estimated cost, \$4,570; MacDonald Construction Co., \$2.27 per sq. yd.; R. Ruthven, \$2.26 per sq. yd. Mulberry st., Prescott to Arthur ave., asphalt and stone block; estimated cost, \$15,321; MacDonald Construction Co., \$2.33 per sq. yd.; R. C. Ruthven, \$2.28 per sq. yd. Prescott ave., Mulberry to Ash, asphalt and stone block; estimated cost, \$31,706; MacDonald Construction Co., \$2.31 per sq. yd.; R. C. Ruthven, \$2.20 per sq. yd. Walnut st., Washington to Capouse, asphalt; estimated cost, \$14,304; MacDonald Construction Co., \$1.83 per sq. yd.; R. C. Ruthven, \$1.80 per sq. yd. Taylor ave., Mulberry to Olive, asphalt and stone block; estimated cost, \$11,071; MacDonald Construction Co., \$2.45 per sq. yd.; Gaynor Contracting Co., \$2.40 per sq. yd.; Raymond & Co., \$2.24 per sq. yd. Mahon court, Olive to Gibson, vitrified brick; estimated cost, \$5,683; MacDonald Construction Co., \$2.45 per sq. yd.; Gaynor Construction Co., \$2.25 per sq. yd.; Raymond & Co., \$2.20 per sq. yd. Mahon court, Mulberry to Vine, vitrified brick, estimated cost, \$2,756; MacDonald Construction Co., \$2.45 per sq. yd.; Gaynor Construction Co., \$2.36 per sq. yd.; Raymond & Co., \$2.20 per sq. yd. Ridge Row, Monroe to Webster, asphalt; estimated cost, \$9,877; MacDonald Construction Co., \$1.83 per sq. yd.; R. C. Ruthven, \$1.90 per sq. yd. Moosic st., Prospect ave. to Roaring Brook bridge, asphalt; estimated cost, \$5,139; MacDonald Construction Co., \$2.07 per sq. yd.; R. C. Ruthven, \$1.90 per sq. yd. Luzerne st., Third to Railroad, asphalt, stone block; estimated cost, \$7,456; MacDonald Construction Co., \$1.97 per sq. yd.; R. C. Ruthven, \$2.08 per sq. yd. Lafayette st., Filmore to Van Buren, asphalt and stone block; estimated cost, \$8,348; MacDonald Construction Co., \$2.35 per sq. yd.; R. C. Ruthven, \$2.15 per sq. yd. New st., Washington to Capouse, asphalt and stone block; estimated cost, \$8,955; MacDonald Construction Co., \$1.83 per sq. yd.; R. C. Ruthven, \$2.03 per sq. yd. Poplar st., Monroe to Quincy, asphalt and stone block; estimated cost, \$4,626; MacDonald Construction Co., \$2.42 per sq. yd.; R. C. Ruthven, \$2.46 per sq. yd. Pine st., Clay to Webster, asphalt and stone block; estimated cost, \$4,072; MacDonald Construction Co., \$2.60 per sq. yd.; R. C. Ruthven, \$2.45 per sq. yd.

Memphis, Tenn.—By city commissioners, contract to Memphis Asphalt & Paving Co., at \$16,777 to surface Marshall ave. with asphalt.

San Antonio, Tex.—Bids for macadamizing Denver Boulevard and Iowa st. have been opened, and lowest bids were received from W. A. Kelly, at \$8,300 and \$4,500. Specifications as prepared by City Engineer Pancoast call for grading of Denver Boulevard from South Hackberry st. to South Gevers st., a distance of 5,325 lin. ft., at width of 27 feet. To properly carry off water drainage ditch on Denver Boulevard on each side of street is included in specifications. Ditch is to be eight feet wide at bottom on one side and four feet wide on other side. Iowa st. specifications call for paving of street from South Cherry st. to South Palmetto ave. for width of 27 feet and distance of 3,505 lin. ft.

Park View, W. Va.—For laying sidewalk from National road to Second st., to Springer & Springer, at \$1,200.

Everett, Wash.—For grading, curbing and cement sidewalk of State st. and Highland ave., from Twenty-first to Twenty-fourth sts., to F. K. Ffolliotte at \$18,899.55.

Milwaukee, Wis.—Creosoted block is to be used largely in the new pavement of Grand ave., from the river to alley between Fourth and Fifth sts., and cross

streets, contract for which has been awarded to L. W. Schruth, whose bid was lowest of five opened, being \$95,281.20. Contract includes Wells st. from West Water to Sixth st.; West Water, from Sycamore to Cedar; Second st., from Sycamore to West Water, and Third st., from Sycamore to Cedar.

Superior, Wis.—By city commission for paving of Baxter ave., to E. A. Dahl, at \$34,983.46.

SEWERAGE

Sacramento, Cal.—Taxpayers are to vote on proposition to extend sewer system at cost of \$1,032,000.

Hartford, Conn.—City will construct intercepting sewer from Albany ave. to Park river. H. F. Smith, City Clerk.

Waterbury, Conn.—City engineer has been instructed to construct storm water drain on Bank st. in accordance with his plans.

Delaware City, Del.—The Delaware City Council will install new sewers.

Laurel, Del.—Herbert W. Halton, consulting engineer, has been engaged by Mayor and Council to prepare plans looking to improvement of sewerage system, waterworks system and for street improvements.

Washington, D. C.—Work on construction of Poplar Point substation for sewage pumping will be commenced probably next month. Plant, which is to cost when completed approximately \$25,000, will pump sewage from entire Anacostia river valley and efforts will be made to have it in operation by end of year.

South Bend, Ind.—Construction of pipe sewers on various streets have been authorized.

New Hampton, Ia.—Riceville is contemplating installation of a sanitary sewer system and septic tank. A. F. Kemman, of New Hampton, county surveyor and engineer, has been called to council regarding cost and value of such a system.

Louisville, Ky.—Forty-seven blocks will be supplied with drains at early date.

Biddeford, Me.—Bond issue is being considered for building of new sewerage system, plans for which have been prepared by Roland W. Libby of Saco.

Franklin, Mass.—Massachusetts state Board of health has notified board of water and sewer commissioners of town that it has approved plans as submitted by that board for installation of sewerage system.

Swampscott, Mass.—Construction of sewers on various streets is under consideration.

Trenton, N. J.—Ordinance has been adopted to authorize construction of Sewer No. 507, in Chambers and Mifflin sts. and Roebeling ave., and to provide for payment of cost thereof. Frank Thompson, City Clerk.

Trenton, N. J.—Ordinances have been adopted for construction of various sewers.

Brooklyn, N. Y.—Progress Society of the Rockaways will ask the Board of Estimate to begin installation of sewers in Remsen ave., Far Rockaway, at once, so that work will be well under way by time summer season starts.

Mount Morris, N. Y.—Election will probably be called for April 29 for installing sewerage system at cost of \$45,000.

Oneida, N. Y.—Engineer Kemper has been directed to prepare plans for sanitary sewers and house connections on Sayles and Brooks sts.

Port Washington (L. I.), N. Y.—Installing of sewer system is being discussed.

Toisnot, N. C.—Proposition to issue \$10,000 in bonds for building sewerage and water system will be voted on April 29.

Dayton, O.—Bids will be received at office of city auditor until 12, noon, May 19, for purchase of bonds in sum of \$72,000 for construction of storm water sewers in various streets. Geo. W. Bush, City Auditor.

Carlton, Ore.—Prospective bidders for construction of sewer system have been numerous during past two weeks. Bids for construction will be opened shortly. Estimated cost of sewer is \$15,000.

Erie, Pa.—Ordinance has been passed providing for sewer in Plum st., between 18th and 19th sts.; also providing for sewer in German st., from 21st st south 250 ft.

Greenville, Pa.—At meeting of Greenville Board of Trade committee was appointed to confer with boards of trade of Sharon, Farrell and other towns interested with regard to construction of sewage disposal plant for various boroughs along Shenango river in this section. At

present time councils of Sharon and Farrell are considering proposition to erect sewage disposal plant in vicinity of Wheatland to care for waste of two towns. Joint session of two councils was held some time ago and borough solicitors were instructed to prepare ordinances to cover estimated cost of project.

Reading, Pa.—Bids will be received until 7.30 p. m., April 22, by Finance Committee and City Controller, for purchase of \$300,000 worth of storm sewer bonds. O. E. Dorward, City Controller.

Pawtucket, R. I.—Appropriation of \$1,100 has been made for construction of sewer in Beatty st., from Mason to Broad st.

Woonsocket, R. I.—Ordinances providing for construction of sewers on Oakley and Huntington roads, recommended by sewer committee, has been passed and ordered communicated. Resolution appropriating \$4,091 for this work has been referred to finance committee.

Woonsocket, R. I.—Ordinance providing for construction of sewer in Oakley road from Glen road to Homestead road and in Homestead road from Oakley road to Blackstone st., has been passed in concurrence.

Chattanooga, Tenn.—Profiles and plans for sewerage in territory to become part of city of Chattanooga June 1 will be begun at once under direction of Commissioner A. N. Sloan and Engineer Robert Hooke.

Nashville, Tenn.—Sum of \$3,100 has been appropriated for construction of sewer in Gallatin road and alley 727.

Jacksonville, Tex.—In election held to determine whether \$35,000 of bonds should be issued for construction of sanitary sewerage system and extension of water supply, bond issues carried by 3 to 1 majority.

Bellaire, W. Va.—Ordinance providing for construction of sewers in first sewer district has been passed.

Niagara Falls, Ont., Can.—Board of Health, with sewer committee, have approved of plans for proposed trunk sewer along bed of Muddy Run Creek. Tentative plans submitted by City Engineer Frank Anderson have been discussed, and will be sent to the Provincial Board of Health in near future. It is estimated that sewer will cost upwards of \$75,000.

CONTRACTS AWARDED.

Pasadena, Cal.—By City Council for constructing east side storm drain, to Jas. M. Montgomery, Alhambra, at \$88,500. Other bids as follows: Cox & Mathews, Pasadena, \$94,365; Taylor & Beilner, Los Angeles, \$94,724; High Way Constr. Co., Redlands, \$95,560; J. E. Haddock, Pasadena, \$96,900.

Hartford, Conn.—Board of Contract and Supply has awarded contracts for three sections of sewers as follows: Bids for construction of sewer on Cheshire st. were as follows: John Mannocho, \$1,690; Di Marco & Bernardino, \$1,622; Petrossi Bros., \$1,735.50; Dominick Mobilia, \$2,244.25; J. Harry Lloyd, \$1,505; P. Silvestri, \$1,550; C. H. Slocumb & Co., \$1,610; F. B. & W. H. O'Neil, \$1,460. Contract was awarded to F. B. & W. H. O'Neil. For construction of sewer on Capitol ave. extension bids were as follows: F. B. & W. H. O'Neil, \$1,185; Dominick Mobilia, \$1,362; John Mannocho, \$1,551.50; Di Marco & Bernardino, \$888.50; P. Silvestri, \$1,243.70. Marco & Bernardino secured the contract. For sewer on Jefferson and Madison sts., bids were: Petrossi Bros., \$1,851.50; F. B. & W. H. O'Neil, \$2,204; J. Harry Lloyd, \$2,292.85; P. Silvestri, \$2,243.35; C. H. Slocumb & Co., \$1,936.50; John Mannocho, \$2,349.15; Di Marco & Bernardino, \$1,928.75. Contract was awarded to Petrossi Brothers.

Torrington, Conn.—By city for construction of sewers to Andreani & Gelormino Co., at following bid: 1,247 ft. 18" circ. tile, at \$1.16; 312 ft. 15" tile at \$1.01; 180 ft. 12" tile at 99 cts.; 725 ft. 8" tile at 74 cts.; manholes, \$42; surface water inlet, \$36; total of bid, \$3,114.06. Other bidders as follows: A. Conti & Co., \$4,713.26; O'Neil Bros., \$3,952.90; Bernardino & Silvestri, \$4,177.93; Petrossi Bros., \$4,611.05; Henry Spinach, \$4,988.73, and John Driscoll, \$3,794.40. C. A. Patterson, C. E., Borough Engineer.

Champaign, Ill.—By Board of Local Improvements, for Fountain Head storm water sewer, to Arthur Birt, of Decatur, at \$11,249. Other bidders: J. W. Stipes, Champaign, \$11,590, and Geo. C. Fairclough, Champaign, \$11,811. L. N. Sizer, City Engr.